cato® Installation Instructions

Creation/Last Change		Release	
Edited by:		Released by:	
Date:		Date:	
Signature:		Signature:	

Change History

Version	Date	Author	Remarks	Release Date	Released By
1	17.03.00	CH	SQL7 SP2	03.04.00	HH
2	03.01.01	CH	SQL7 SP3, New: Client-Installation	24.01.01	HH
3	11.06.01	CH	SQL 2000 SP1	29.06.01	HH
4	30.11.01	HH	SQL 2000 SP2, KVM-amplifier	03.12.01	CH
5	20.04.02	HH	SQL7 SP4, Settings "SpeechEnabled" and "DynLicenseType"	22.04.02	CH
6	27.08.03	HH	SQL 2000 SP3, SQL Restore-chapter	19.09.03	CH
7	21.10.03	CH	Balance adjustment to environment cond.	24.11.03	HH
8	23.03.04	HH	New Nicelabel printer driver	27.03.04	CH
9	06.05.05	MH	SQL 2000 SP4, new Screenshots MSDE	06.05.05	HH
10	05.06.05	MH	Kern balances, extension amplifier	08.06.05	HH
11	07.12.05	MH	Setting "MultipleInstances"	19.12.05	HH
12	07.02.06	HH	SQL 2000 Authentification settings	07.02.06	MH
13	15.02.06	MH	Printer B-SA4	15.02.06	HH
14	13.03.06	MH	Printer LX 800	13.03.06	HH
15	21.04.06	MH	Form feed tearing edge with printers	21.04.06	HH
16	16.08.06	HH	Data input database in MSDE	16.08.06	CH
17	23.01.07	MH	Additional setting Sartorius	24.01.07	HH
18	11.04.07	HH	KVM USB Mini, old hardware	11.04.07	MH
19	10.08.07	MH	SQL 2005, Citrix, Barcode scanner	16.8.2007	HH
20	27.10.07	HH	Replace H&H by Cato Software	27.10.07	HH
21	07.11.07	JK	SQL2005 Access authorization modified	07.11.07	HH
22	07.12.07	CH	UseClientNameEnvVar=1 in Citrix	07.12.07	HH
23	30.04.08	MH	Installer for Cato 2 Cato 2 Screenshots	06.05.08	HH
24	26.06.08	SS	Revision for SQL Server 2005 Express	15.07.08	JK
25	25.11.08	JK	Prerequisite KB935839 for Windows 2000 added	25.11.08	HH
26	20.02.09	JK	Protocol settings for new Sartorius balances added	20.2.08	HH
27	13.05.09	CM	Avery Dennison AP 5.4	15.05.09	HH
28	01.08.09	CM	Safety warning for Mettler-Toledo balances (XS series) added	03.08.09	HH

29	05.08.09	CM	Document restructuring SQL 2005 Express SP3 Calibratable data storage unit	05.09.09	HH
30	22.10.09	GB	Sartorius Cubis, GPA (Alibi storage), Mettler-Toledo Bluetooth added	23.10.09	JK
31	27.11.09	GB	Datalogic Matrix200 instructions added	27.11.09	SG
32	09.12.09	SG	Layout adjustments in 4.3	09.12.09	CP
33	22.02.10	CP	Update Avery Dennison AP 44	22.02.10	SG
34	14.06.10	CP	Update Avery Dennison AP 44	14.06.10	GB
35	16.06.10	SG	Various adjustments in the "Trusted Connection" and "Balances" sections	17.06.10	GB
36	02.05.11	CP	Update Database compatibility mode 9.0	02.05.11	SG
37	04.11.11	CP	Adjustments for Cato 2.26 (Incompatibility to MSSQL 2000 and Windows 2000, requirement of .NET Framework 4.0)	04.11.11	SG

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1. Overview

This document describes the installation of the software **cato®**, including database installation and that of special hardware to be used with **cato®**.

The document has been created on the basis of the ***ALG/Masterplan***

Before performing the installation, please read the information in the document **Cato/Integration/System Requirements.**

This document applies to all **cato®** versions **2.26 and higher.**

Cato® is a so called Client-Server Database application. This means that several computers (Clients) can access a central database (Server) at the same time. This requires that both the **cato®** client software (in fact on each computer you will be using **cato®** on) and the **cato®** database server be installed on your computer. The database server may be a physically separate computer; however, client- and server software may as well be installed on one and the same computer (recommended with "small" installations – see System Requirements).

2 Installing the Server Software

As for the server software (database), you may either use an MS-SQL-Server or the "Microsoft SQL Server 2005 Express". Both differ in aspects of licensing law and in their performance:

- **Microsoft SQL Server 2005 Express:** The Data Engine is a freeware provided by Cato Software and does not need to be licensed. In fact there is no limitation to the number of users accessing the server simultaneously. Database size is limited to 4 GB.
- **Microsoft SQL Server:** with the relevant server hardware provided, there are no limitations of performance, several hundred users may access the database simultaneously. However, the MS-SQL-Server is commercial shareware software and must be licensed for the relevant number of users. You may use an existing MS-SQL-Server for **cato®**. The Microsoft SQL Server 2005 as well as 2008 and 2008 R2 are supported. Starting with **cato®** version 2.26 **only** compatibility level 9.0 is supported.

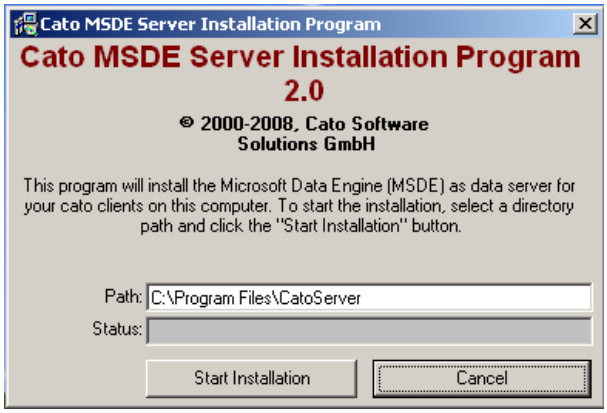
2.1 Installing the Microsoft SQL Server 2005 Express

In this case, go to the directory named *Server* on your **cato®** Installation CD and double-click the Installation program *setup.exe*.

2.1.1 Case 1 – Updating an existing cato® database

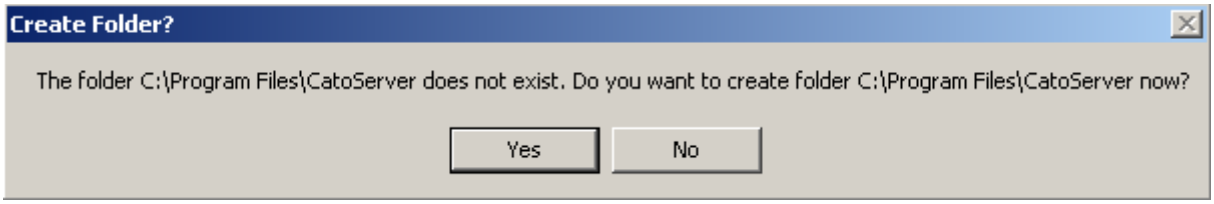
- **Step 1 – Determining the Program Directory**

The following window appears:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status:
Start Installation
Cancel

Confirm the default installation path by clicking the "**Start Installation**" button or enter an alternative path in the "**Path**" field and click "**Start Installation**".

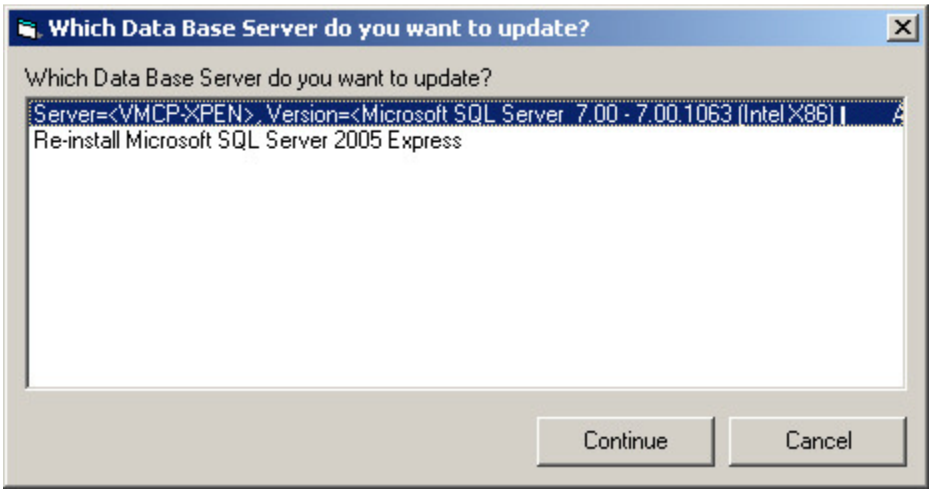
If there is no such program folder yet, the following dialogue box appears:


Create Folder?
The folder C:\Program Files\CatoServer does not exist. Do you want to create folder C:\Program Files\CatoServer now?
Yes
No

Click "**Yes**" to automatically create the program directory.

- **Step 2 – Selecting the Database Server**

The following window appears:

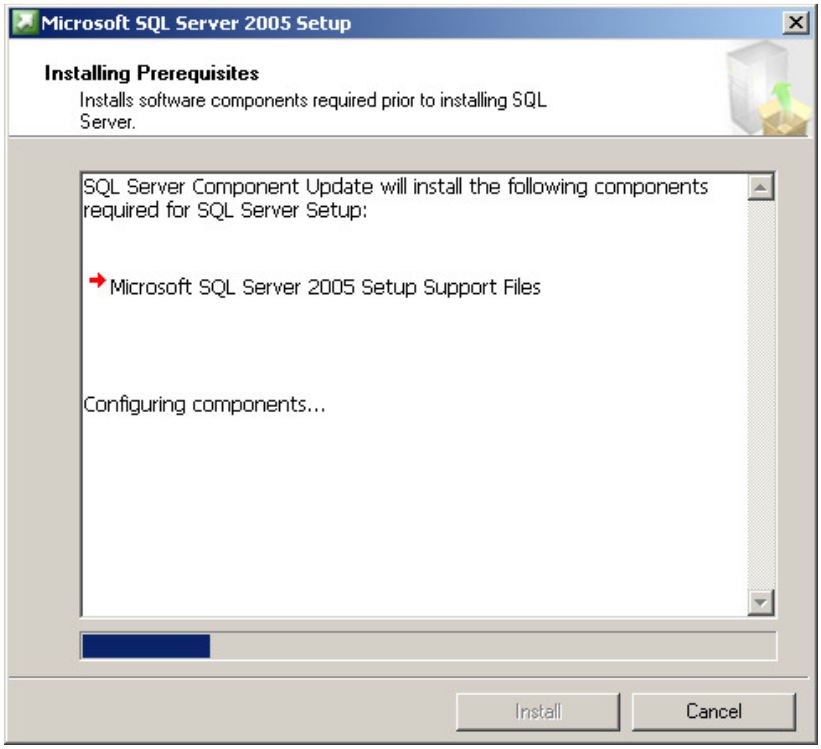

Which Data Base Server do you want to update?
Which Data Base Server do you want to update?
Server=<VMCP-XPEN>, Version=<Microsoft SQL Server 7.00 - 7.00.1063 (Intel X86)
Re-install Microsoft SQL Server 2005 Express
Continue
Cancel

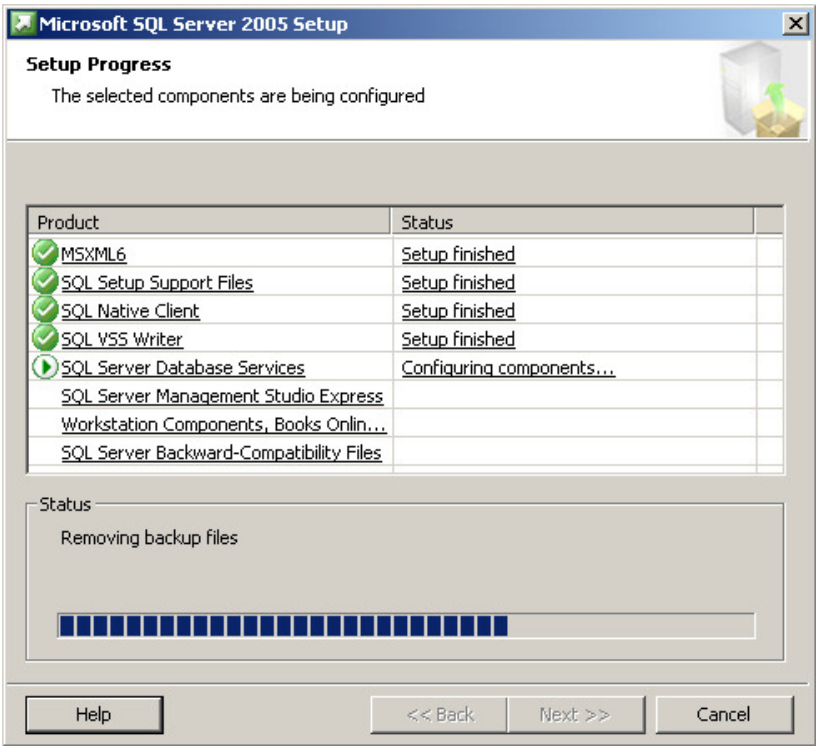
Select the database you wish to update and click "**Next**".

"New installation of the 'Microsoft SQL Server Express' " is described under Case 2 – Creating a new **cato®** database.

- **Step 3 – Installing Server Files**

The following window appears:

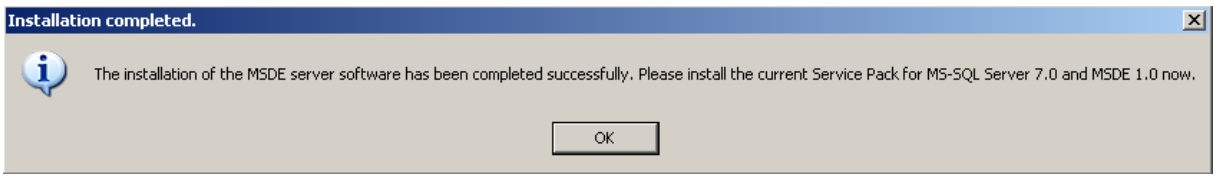

Microsoft SQL Server 2005 Setup
Installing Prerequisites
Installs software components required prior to installing SQL Server.
SQL Server Component Update will install the following components required for SQL Server Setup:
Microsoft SQL Server 2005 Setup Support Files
Configuring components...
Install
Cancel



Depending on system status and installation progress, these windows may appear slightly differently.

- **Step 4 – Completing the Installation**

The following message is displayed:


Installation completed.
The installation of the MSDE server software has been completed successfully. Please install the current Service Pack for MS-SQL Server 7.0 and MSDE 1.0 now.
OK

The following message may appear as well:

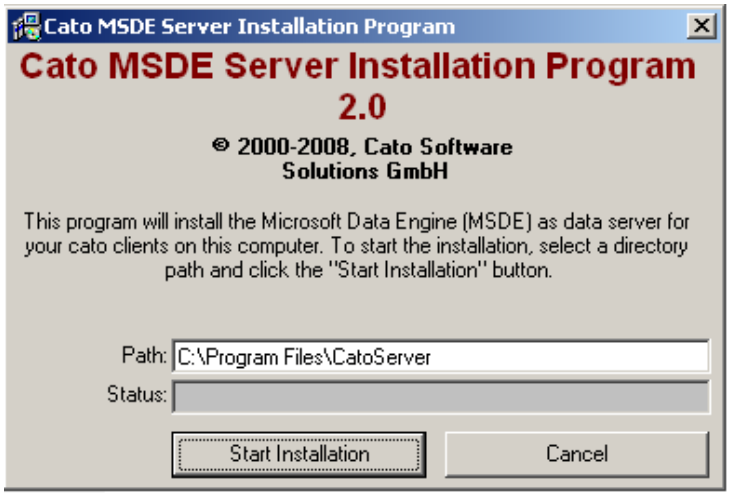
Fertig!
Die Installation des cato Microsoft SQL Server 2005 Express wurde erfolgreich abgeschlossen. Bitte Installieren Sie gegebenenfalls aktuelle Servicepacks für Microsoft SQL Server 2005 Express.
Um die Anwendung fehlerfrei betreiben zu können starten Sie bitte das System neu.
OK

In this case, please restart the system before using **cato®**.

2.1.2 Case 2 – Creating A New cato® Database

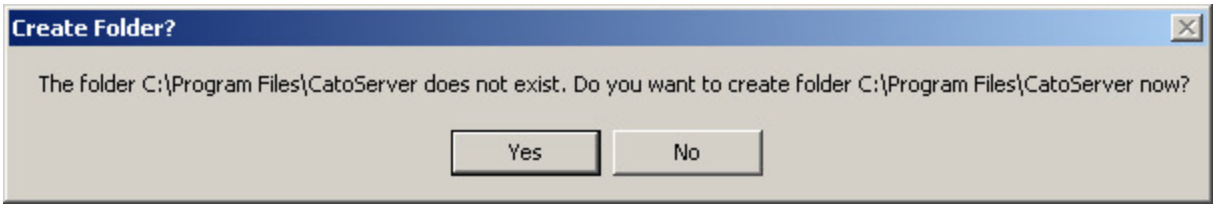
- **Step 1 – Determining the Program Directory**

The following window appears:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status:
Start Installation
Cancel

Confirm the default installation path by clicking the "**Start Installation**" button or enter an alternative path in the "**Path**" field and click "**Start Installation**".

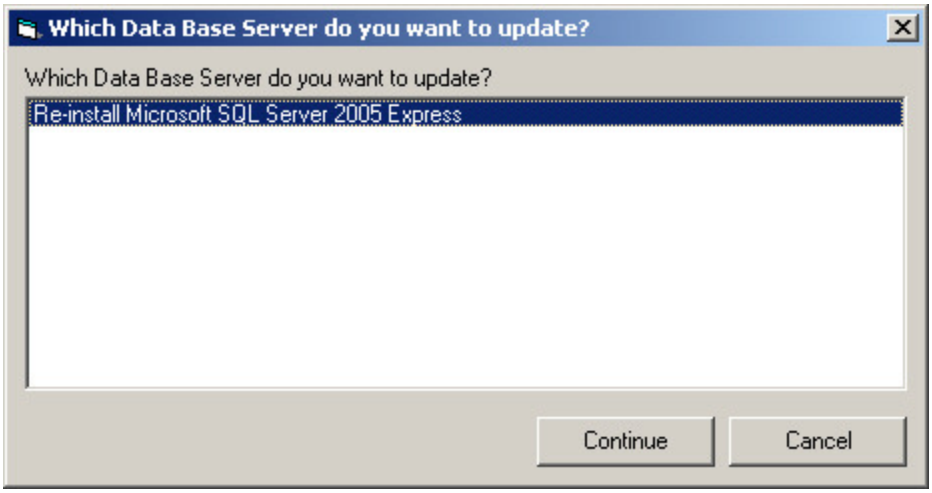
If there is no such program folder yet, the following dialogue box appears:


Create Folder?
The folder C:\Program Files\CatoServer does not exist. Do you want to create folder C:\Program Files\CatoServer now?
Yes
No

Click "**Yes**" to automatically create the program directory.

- **Step 2 – Selecting the Database Server**

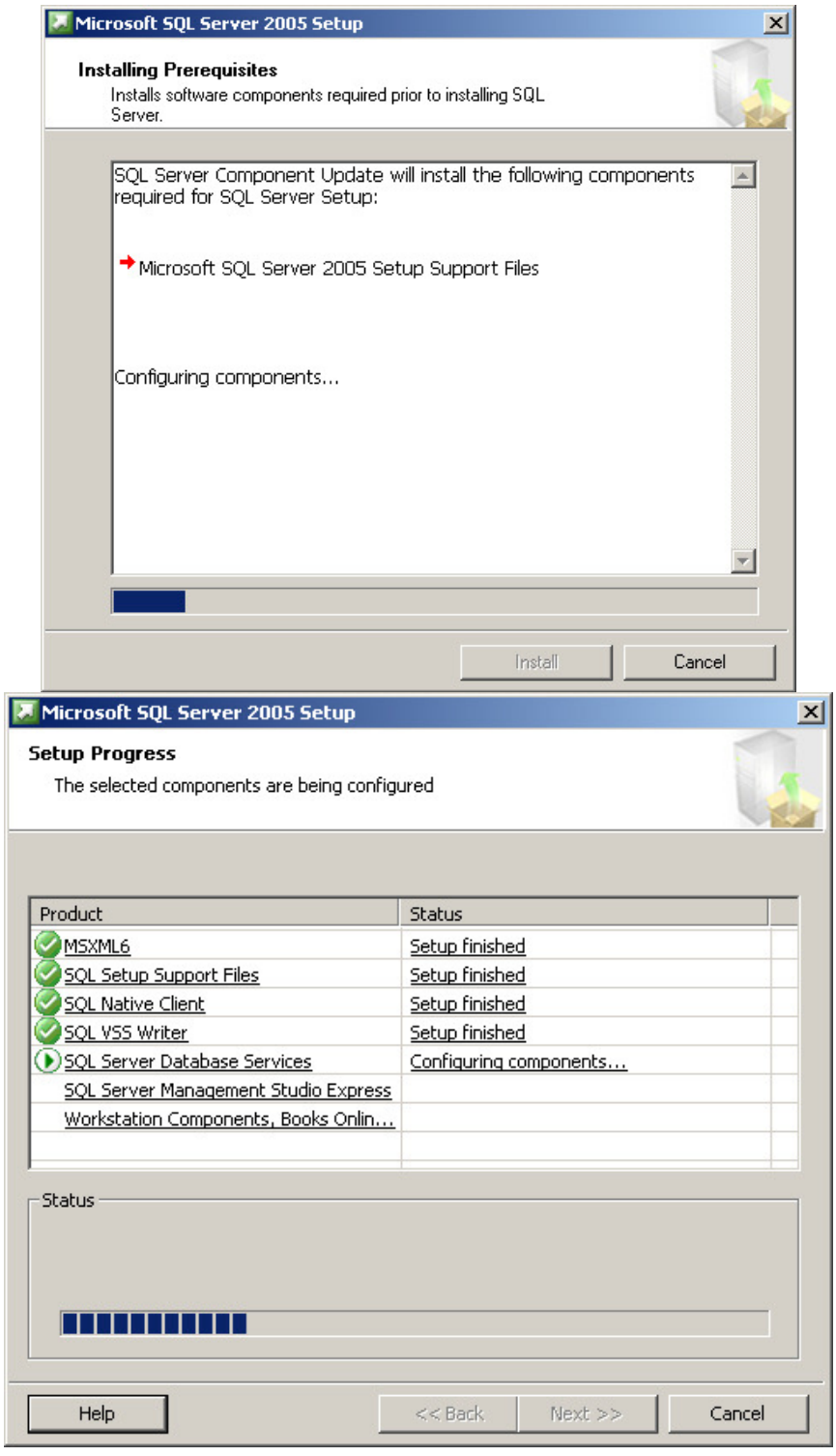
The following window appears:


Which Data Base Server do you want to update?
Which Data Base Server do you want to update?
Re-install Microsoft SQL Server 2005 Express
Continue
Cancel

Select 'Reinstall Microsoft SQL Server 2005 Express' and click "**Next**".

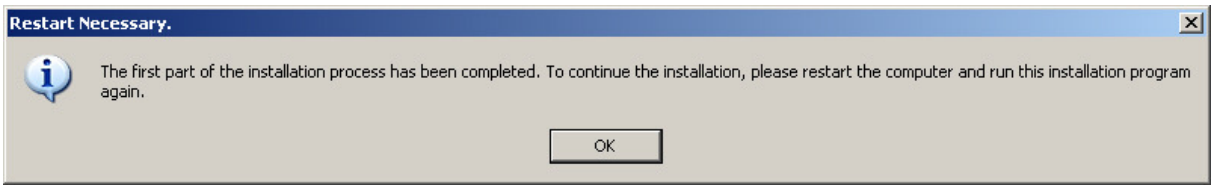
- **Step 3 – Installing Server Files**

The following window appears:



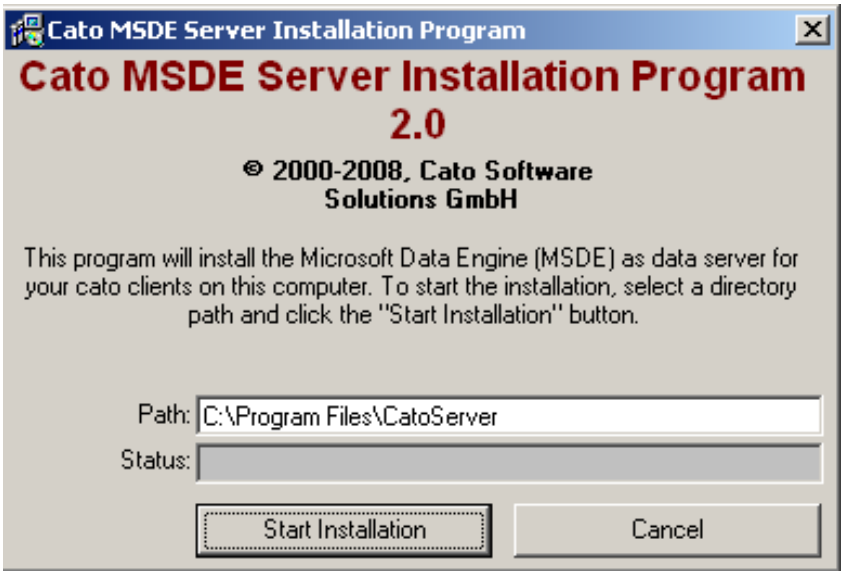
Depending on system status and installation progress, these windows may appear slightly differently.

In case you receive the following message, please proceed with Step 3.1, otherwise skip Step 3.1 and continue with Step 4.


Restart Necessary.
The first part of the installation process has been completed. To continue the installation, please restart the computer and run this installation program again.
OK

- **Step 3.1 – Resuming Installation After Required Restart**

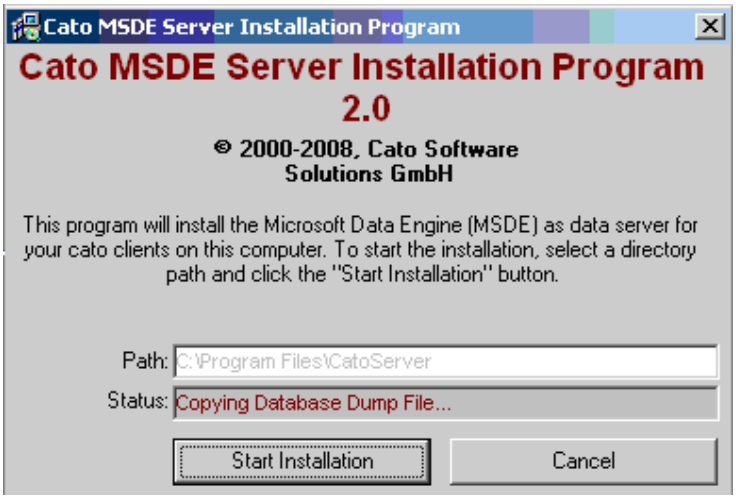
After restarting your system, start Setup once again. The following window appears:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status:
Start Installation
Cancel

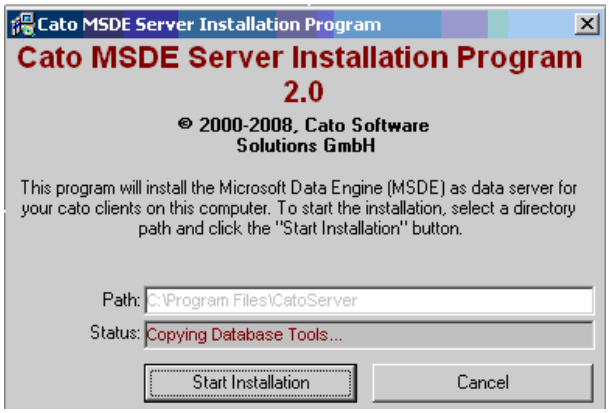
Click "**Next**" to continue the installation.

- **Step 4 - Setting up the Database**

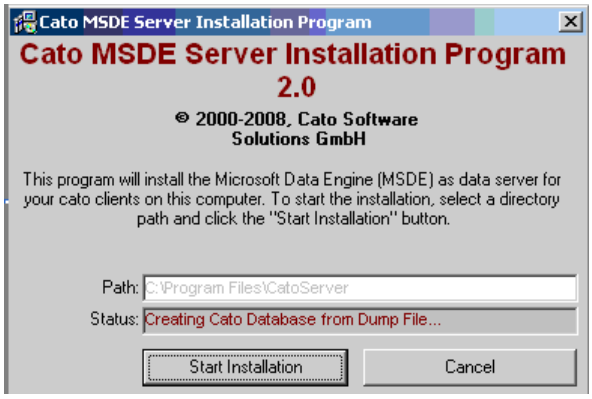
First, the database file is copied:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status: Copying Database Dump File...
Start Installation
Cancel

The database tools are now being copied:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status: Copying Database Tools...
Start Installation
Cancel

The **cato®** database is created:


Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status: Creating Cato Database from Dump File...
Start Installation
Cancel

Now the database settings are adjusted:

Cato MSDE Server Installation Program
Cato MSDE Server Installation Program 2.0
© 2000-2008, Cato Software Solutions GmbH
This program will install the Microsoft Data Engine (MSDE) as data server for your cato clients on this computer. To start the installation, select a directory path and click the "Start Installation" button.
Path: C:\Program Files\CatoServer
Status: Adjusting Database Settings...
Start Installation
Cancel

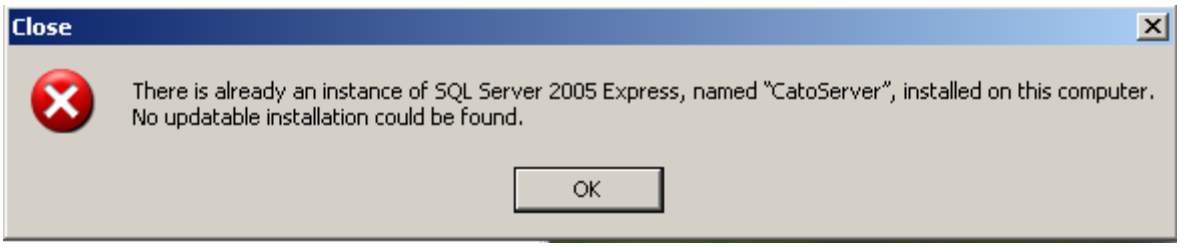
- **Step 5 - Completing the Installation**

Finally, the following message appears:

Fertig!
Die Installation des cato Microsoft SQL Server 2005 Express wurde erfolgreich abgeschlossen. Bitte Installieren Sie gegebenenfalls aktuelle Servicepacks für Microsoft SQL Server 2005 Express.
OK

2.1.3 Important Error Messages

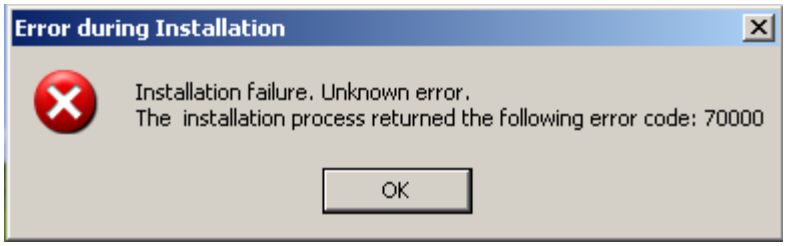
"Setup failed to locate an installation to be updated or a Microsoft SQL Server 2005 Express Installation already exists."


Close
There is already an instance of SQL Server 2005 Express, named "CatoServer", installed on this computer.
No updatable installation could be found.
OK

You have already performed the installation and setup could not find any updatable version of a **cato®** database.

- **Errors with the Installation of the Microsoft SQL Server 2005**

The following window appears:


Error during Installation
Installation failure. Unknown error.
The installation process returned the following error code: 70000
OK

The second line shows the return value as sent by the Microsoft SQL Server Installation. This value allows to draw conclusions concerning the abort.

2.1.4 Installing the Service Pack for Microsoft SQL Server 2005 Express

The installation comes with the Microsoft SQL Server 2005 Express with Service Pack 2.

Up to now, this is the latest version.

2.2. Copying a Pre-Filled Database to the Microsoft SQL Server 2005 Express

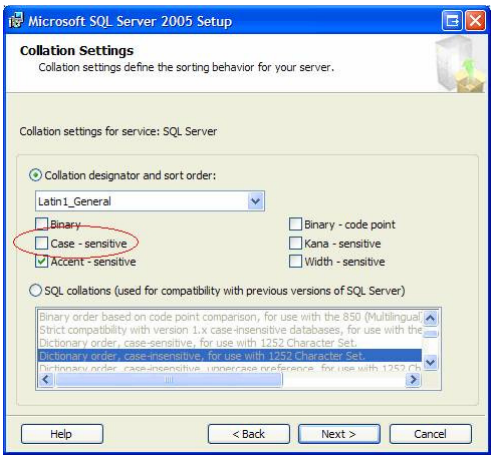
See 2.3.1 SQL 2005 Server

2.3. Copying the cato® Database to a Microsoft SQL Server

Instead of the Microsoft SQL Server 2005 Express, the **cato®** database can be copied to an existing Microsoft SQL Server (Version 2005, or 2008) as well. This requires that you have an Administrator access to your "SQL Server Management Studio".

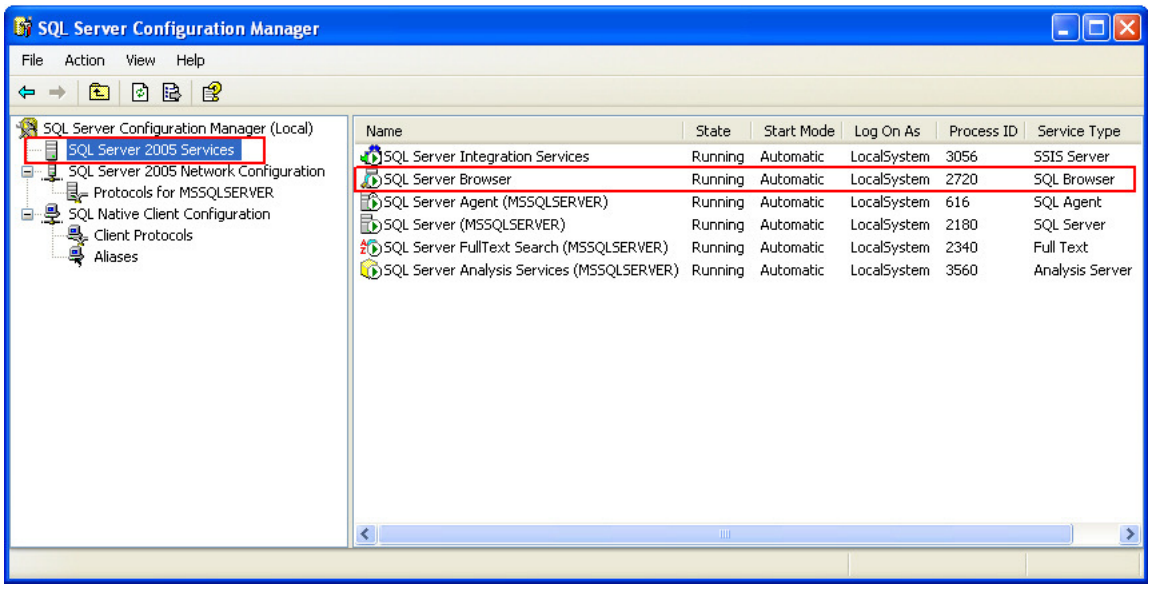
2.3.1. Microsoft SQL 2005 Server

First make sure that "**Case sensitivity**" is not activated with server installation.


Microsoft SQL Server 2005 Setup
Collation Settings
Collation settings define the sorting behavior for your server.
Collation settings for service: SQL Server
Collation designator and sort order:
Latin1_General
Binary
Case - sensitive
Accent - sensitive
Binary - code point
Kana - sensitive
Width - sensitive
SQL collations (used for compatibility with previous versions of SQL Server)
Dictionary order, case-insensitive, for use with 1252 Character Set.
Help
< Back
Next >
Cancel

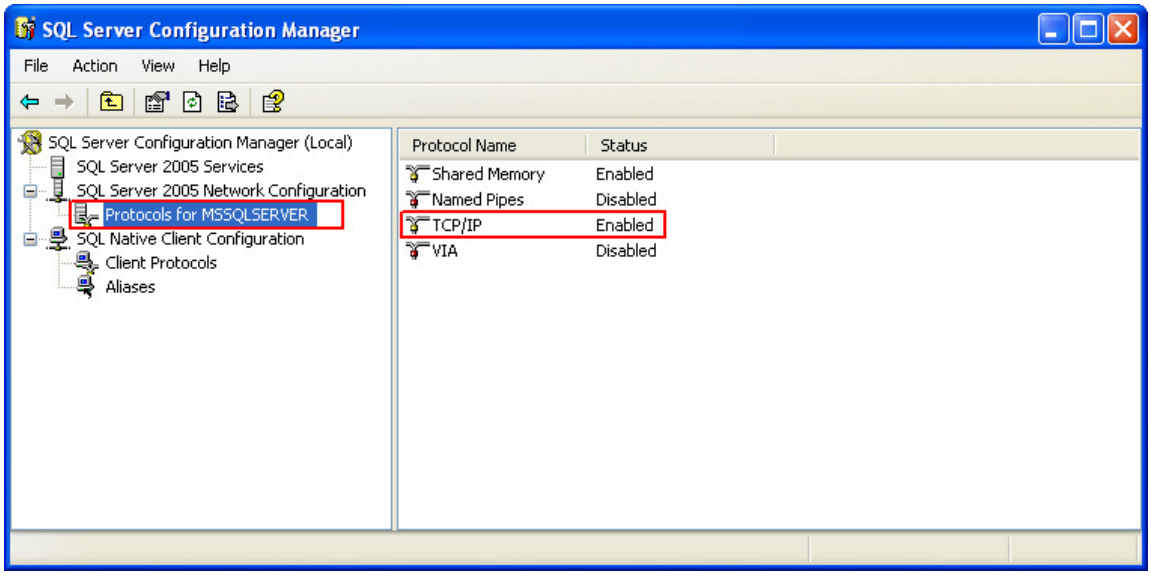
After completing the installation, you have to adjust the settings for the SQL Server Browser and for TCP/IP with the SQL Server Configuration Manager:

- **SQL Server Browser**


SQL Server Configuration Manager
File Action View Help
SQL Server Configuration Manager (Local)
SQL Server 2005 Services
SQL Server 2005 Network Configuration
Protocols for MSSQLSERVER
SQL Native Client Configuration
Client Protocols
Aliases
Name State Start Mode Log On As Process ID Service Type
SQL Server Integration Services Running Automatic LocalSystem 3056 SSIS Server
SQL Server Browser Running Automatic LocalSystem 2720 SQL Browser
SQL Server Agent (MSSQLSERVER) Running Automatic LocalSystem 616 SQL Agent
SQL Server (MSSQLSERVER) Running Automatic LocalSystem 2180 SQL Server
SQL Server FullText Search (MSSQLSERVER) Running Automatic LocalSystem 2340 Full Text
SQL Server Analysis Services (MSSQLSERVER) Running Automatic LocalSystem 3560 Analysis Server

Set the Start Mode to "**Automatic**" and start the SQL Server Browser.

- **TCP/IP**



Under "SQL Server 2005 Network Configuration", select the server you wish to configure and activate TCP/IP.

- **Step 1 – Copying Backup File to Server**

First you need a backup file of the **cato®** database. There is an empty database on your installation CD in the **Server\DBBackup** directory. With an existing installation, it is also possible to save the content of the existing database to a backup file by using the **cato®** menu "**Administration**" / "**Save Database**".

It is important that the backup file to be copied is stored on a local drive of the SQL server, e.g. on the CD in the server's local CD-ROM-drive, or on any of the server's hard drive. Accessing the backup file to be copied via a network drive is not sufficient.

- **Step 2 – Type of Access**

Before copying the database to the SQL server, determine how you would like organize access to the database.

- **Possibility #1: "Trusted Connection"**

If you want to enable access authorization via "**Trusted Connection**", you must set the **cato**® ODBC entries with your **cato**® clients accordingly and, after importing the database, assign the corresponding authorizations on the server.

- **Possibility #2: Microsoft SQL Server Access with Login and Password**

If you want to manage access to the server via Login and Password, you should install a Login called "*CatoClient*" on your server before importing. If the ODBC driver is not set to "Trusted Connection", **cato**® clients will try to connect via the login "*CatoClient*" and the password "*powidl0815*". If you assign this password to the Login "*CatoClient*" on the SQL server, **cato**® clients will be able to connect. If you choose another password, **cato**® clients will have to request the password from the user after an unsuccessful attempt to connect.

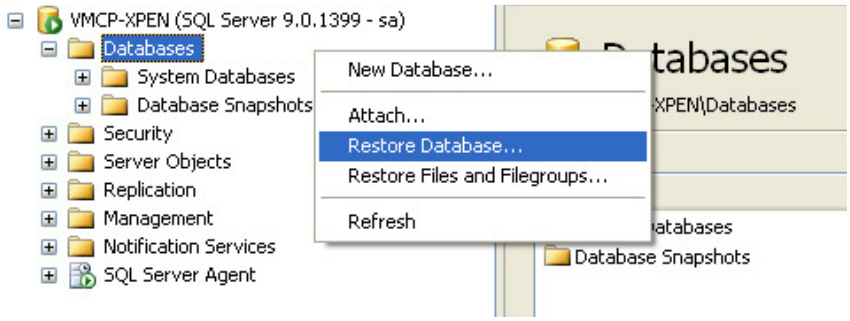
If you choose another password, **cato**® clients will have to request the password from the user after an unsuccessful attempt to connect and save it encrypted for future connections.

• Copying the Backup File with Management Studio

By means of the SQL Management Studio, the Backup file can be copied to the Microsoft SQL Server.

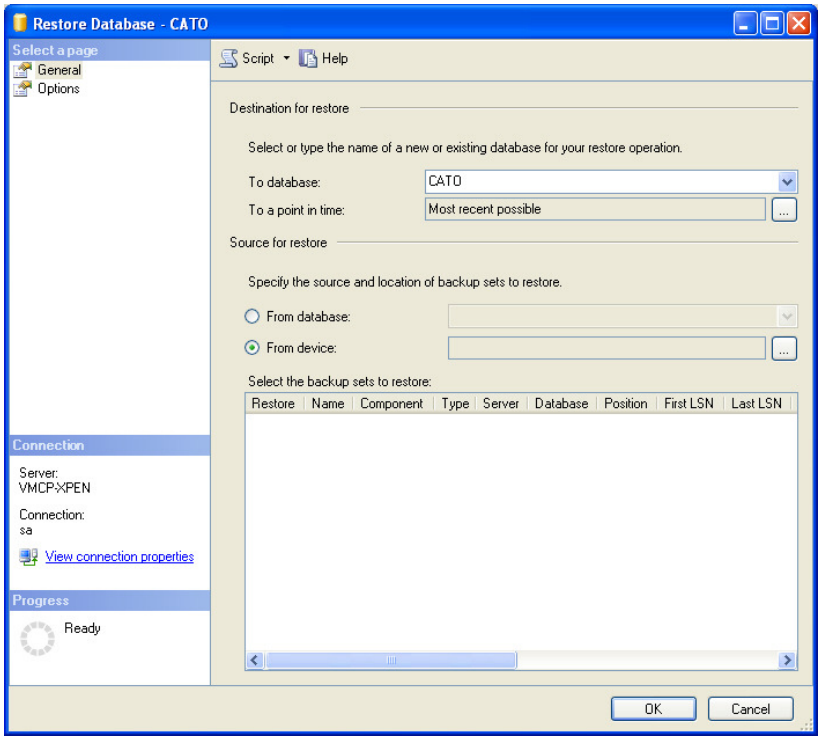
- **Step 1 – Opening the Restore Dialogue**

Right-click the "**Databases**" folder of your server and select "**Restore Database**".



- **Step 2 – Defining Database Name**

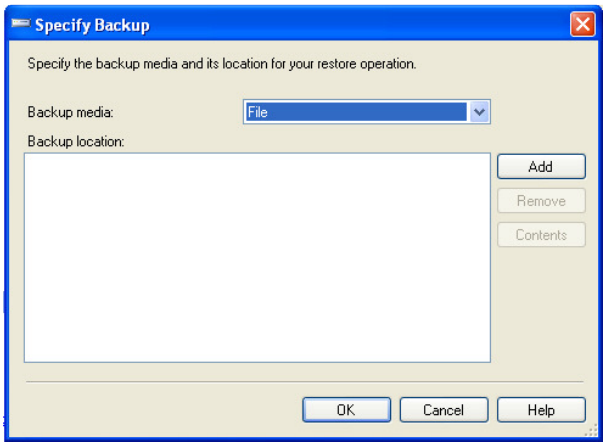
The following window appears:



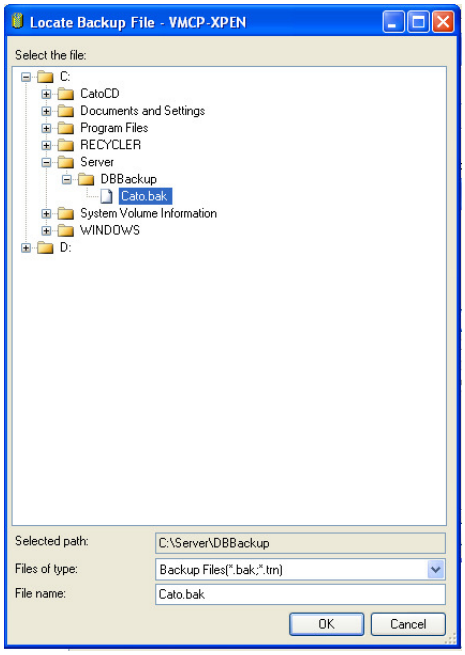
Enter the desired name, as displayed above, in the first input field (e.g. "CATO") and select the option "**Restore: from media** ". Click the "**Select media**" button.

- **Step 3 – Specifying Backup File**

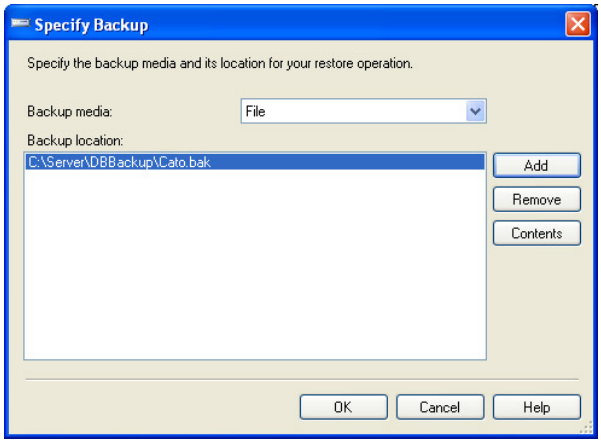
The following window appears:



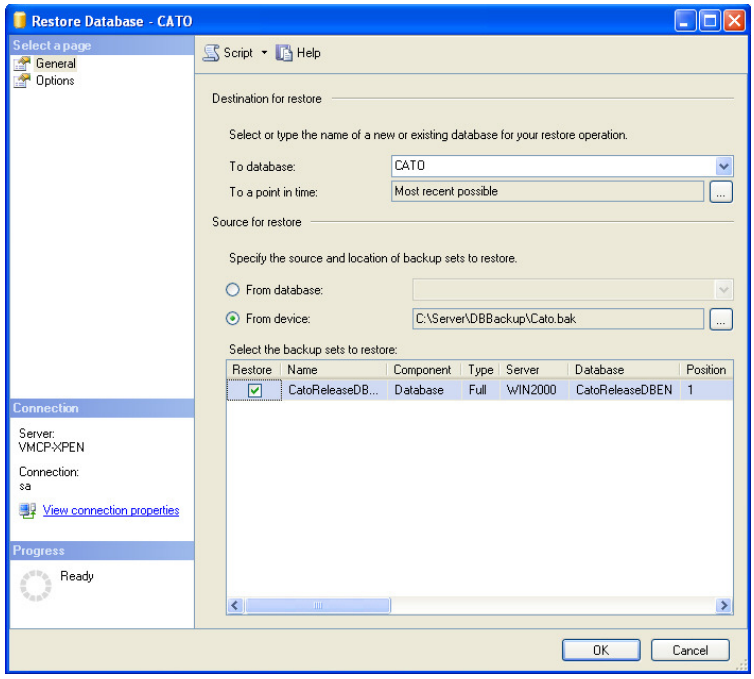
Select the volume "**File**" and click "**Add**". The following window appears:



Select the correct directory from the SQL server's point of view and the backup file's file name. Click "**OK**". You have arrived at the previous window again, but now both the backup file's path and file name are displayed in the list:

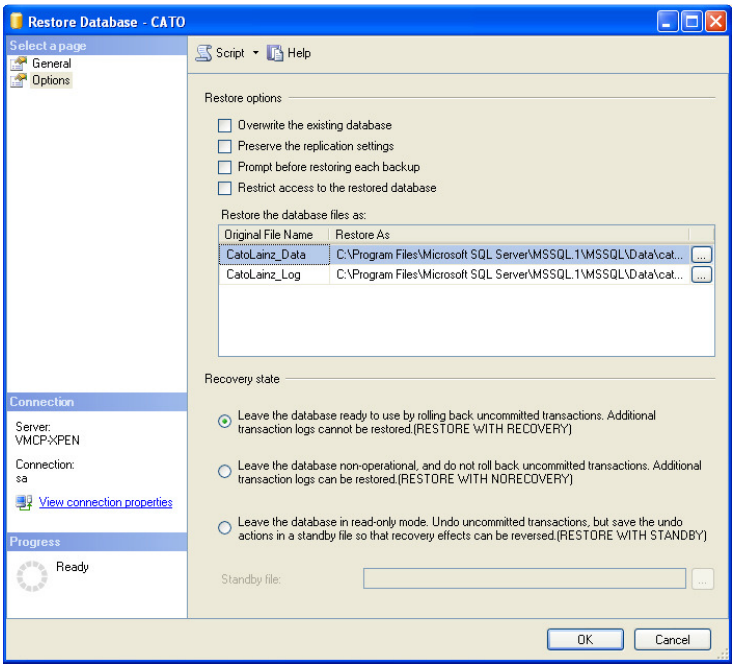


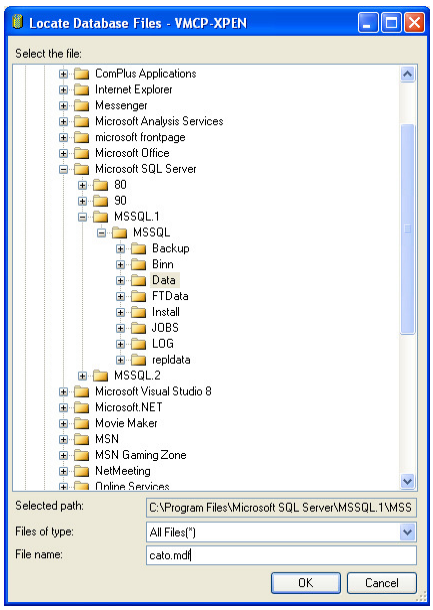
Click "**OK**" again. Now you arrive one level higher which also features the backup file's path and file name in the "**Media**" list.



- **Step 4 – Specifying Restore Target and Start Restoring**

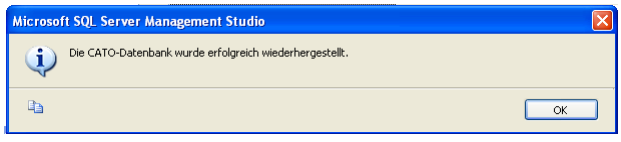
Click the "**Options**" tag. The following dialogue box is displayed:


Restore Database - CATO
Select a page
General
Options
Script
Help
Restore options
Overwrite the existing database
Preserve the replication settings
Prompt before restoring each backup
Restrict access to the restored database
Restore the database files as:
Original File Name
Restore As
CatoLainz_Data
C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\cat...
CatoLainz_Log
C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\cat...
Recovery state
Leave the database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.(RESTORE WITH RECOVERY)
Leave the database non-operational, and do not roll back uncommitted transactions. Additional transaction logs can be restored.(RESTORE WITH NORECOVERY)
Leave the database in read-only mode. Undo uncommitted transactions, but save the undo actions in a standby file so that recovery effects can be reversed.(RESTORE WITH STANDBY)
Standby file:
Connection
Server:
VMCP-XPEN
Connection:
sa
View connection properties
Progress
Ready
OK
Cancel



Select the "**Restore with Recovery**" option and enter a correct local server path manually in the "**Restore as**" column for the files "*cato.mdf*" and "*cato_log.ldf*" to be created. Click "**OK**" to start restoring.

After completion, the following window is displayed:



- **Authentifications for "CatoClient"**

In case you are managing access to the server via Login and Password, you have to do the following with an SQL-2005 server: search the server in the file directory tree displayed on the left. Right-click the server and select "**Properties**" from the context menu. Click "**Safety**" and select the "**SQL Server and Windows**" option with "**Authentification**". Click "**OK**".

Now you can add the user "**CatoClient**" with "**CatoClient**" as user name in the Enterprise Manager under "**Databases**" / "**Cato**" / "**Users**". In the "**Admit In Database Role**" list, select the entries "**public**", "**db_owner**" and "**db_CatoClientRole**" before saving.

In some cases, the relation between the "CatoClient" login and the database user "CatoClient" might not be established correctly (this shows in SQL Server Management Studio for the CatoLogin under "User Mapping“ – "Mapping to Cato database could not be established"). In this case, the following commands should be run:

1.) Right-click the **cato®** database and select "New Query“

2.) Enter the following line: *sp_change_users_login 'update_one', 'CatoClient', 'CatoClient'*

3.) Click "Execute“

After this, the User Mapping to the CatoClient user should be established for the CatoLogin in the **cato®** database.

2.3.2. Service Pack for Microsoft SQL Server

In order to ensure error-free operation we recommend that the latest MS-SQL Server Service Packs are installed.

3. Installing the cato® Client Software

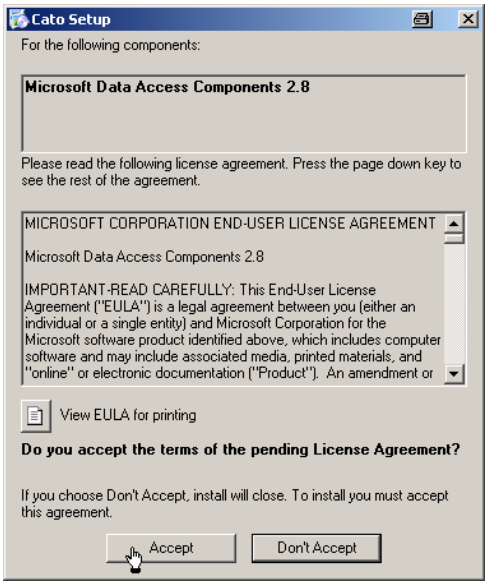
Cato® clients can be installed on any number of computers, however, one **cato®** license key is restricted to a particular machine. Thus, the number of concurrent **cato®** users is limited by the number of license keys.

To install the **cato®** Client Software, select the *Client* folder on your **cato®** installation CD and double-click the installation program *setup.exe*.

3.1 Providing System Prerequisites

- **MDAC 2.8**

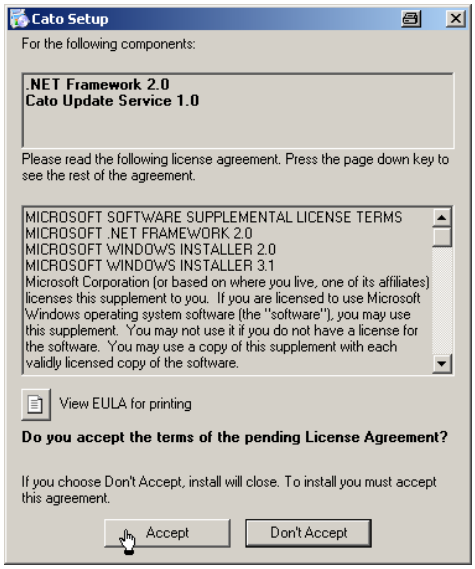
cato® requires the Microsoft MDAC components in version 2.8. In case these have not yet been installed to the computer, the following dialogue box appears:


Cato Setup
For the following components:
Microsoft Data Access Components 2.8
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT CORPORATION END-USER LICENSE AGREEMENT
Microsoft Data Access Components 2.8
IMPORTANT-READ CAREFULLY: This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Microsoft Corporation for the Microsoft software product identified above, which includes computer software and may include associated media, printed materials, and "online" or electronic documentation ("Product"). An amendment or
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

Click "**Accept**".

- **Microsoft .NET Framework 2.0 SP 2 and 4.0**

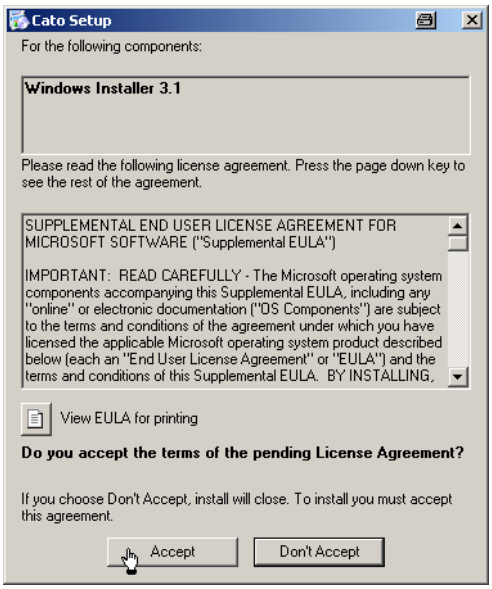
cato® requires the Microsoft .NET Framework 2.0 SP 2 and Microsoft .NET Framework 4.0 and installs the "Cato Update Service" as part of the Cato Client. In case one of the two components has not yet been installed to the computer, the following dialogue box appears:


Cato Setup
For the following components:
.NET Framework 2.0
Cato Update Service 1.0
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT .NET FRAMEWORK 2.0
MICROSOFT WINDOWS INSTALLER 2.0
MICROSOFT WINDOWS INSTALLER 3.1
Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to use Microsoft Windows operating system software (the "software"), you may use this supplement. You may not use it if you do not have a license for the software. You may use a copy of this supplement with each validly licensed copy of the software.
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

Click "**Accept**".

- **Windows Installer 3.1**

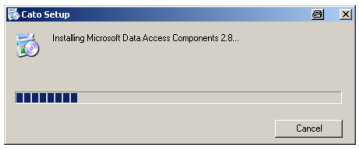
cato® requires the Windows Installer in version 3.1. In case this has not yet been installed to the computer, the following dialogue box appears:

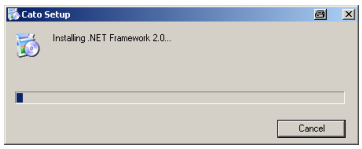

Cato Setup
For the following components:
Windows Installer 3.1
Please read the following license agreement. Press the page down key to see the rest of the agreement.
SUPPLEMENTAL END USER LICENSE AGREEMENT FOR MICROSOFT SOFTWARE ("Supplemental EULA")
IMPORTANT: READ CAREFULLY - The Microsoft operating system components accompanying this Supplemental EULA, including any "online" or electronic documentation ("OS Components") are subject to the terms and conditions of the agreement under which you have licensed the applicable Microsoft operating system product described below (each an "End User License Agreement" or "EULA") and the terms and conditions of this Supplemental EULA. BY INSTALLING,
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

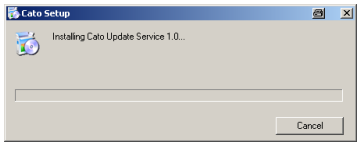
Click "**Accept**".

- **Installing the Required Software**

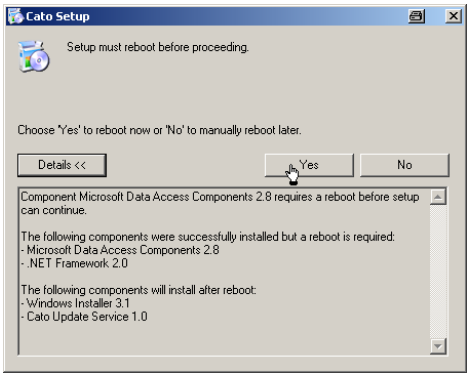
The installation of the required software is shown by the respective progress bars.







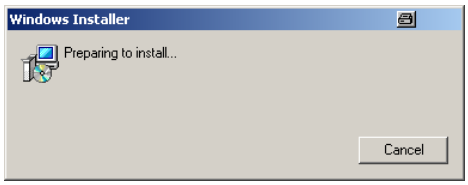
You might have to restart the computer during this process:


Cato Setup
Setup must reboot before proceeding.
Choose 'Yes' to reboot now or 'No' to manually reboot later.
Details <<
Yes
No
Component Microsoft Data Access Components 2.8 requires a reboot before setup can continue.
The following components were successfully installed but a reboot is required:
- Microsoft Data Access Components 2.8
- .NET Framework 2.0
The following components will install after reboot:
- Windows Installer 3.1
- Cato Update Service 1.0

Click "**Yes**“ and wait until the installation is automatically resumed after restart.

3.2. Starting the Installation

The following window appears:



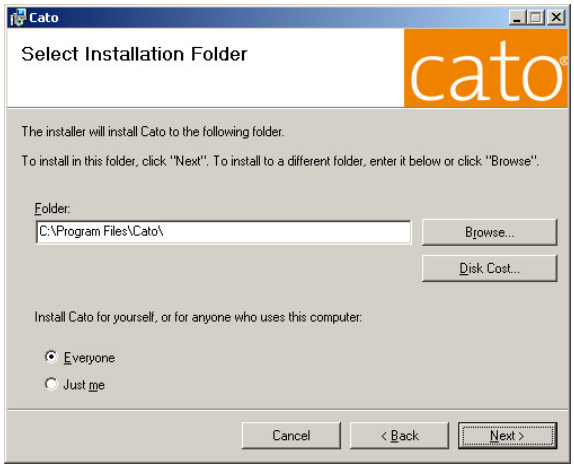
Finally, the installation program's Welcome Screen appears.

Cato
Welcome to the Cato Setup Wizard
The installer will guide you through the steps required to install Cato on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

Click "**Next**“

Specifying Program Folder

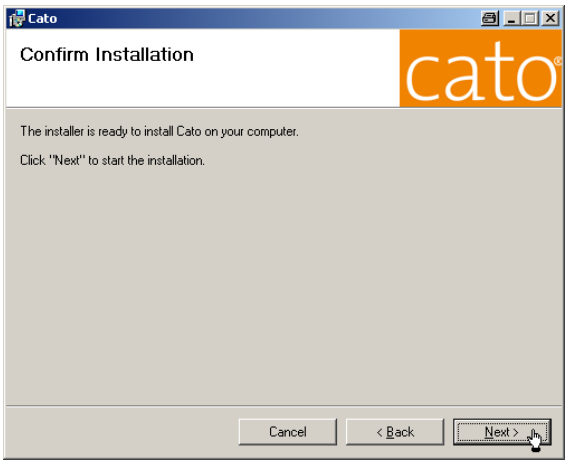
The following window appears:


Cato
Select Installation Folder
The installer will install Cato to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\Cato\
Browse...
Disk Cost...
Install Cato for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

Confirm the default installation path by clicking "**Next**" or enter an alternative path by clicking "**Browse**" and click "**Next**".

Final Confirmation of Installation Files

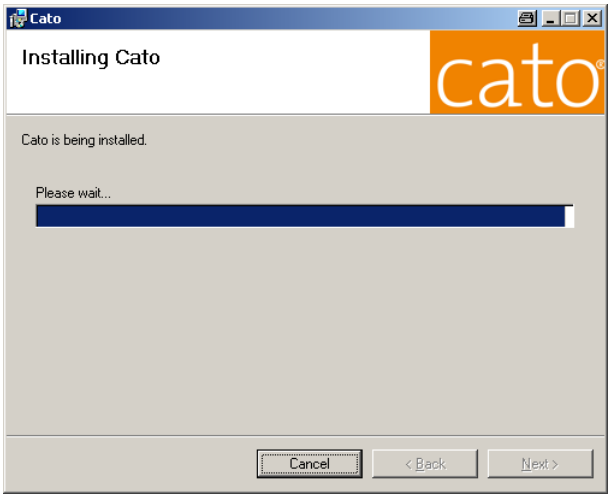
The following, last dialogue box is displayed before the beginning of the actual installation procedure:


Cato
Confirm Installation
The installer is ready to install Cato on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

Click "**Next**" to start the installation procedure or click "**Cancel**" to cancel.

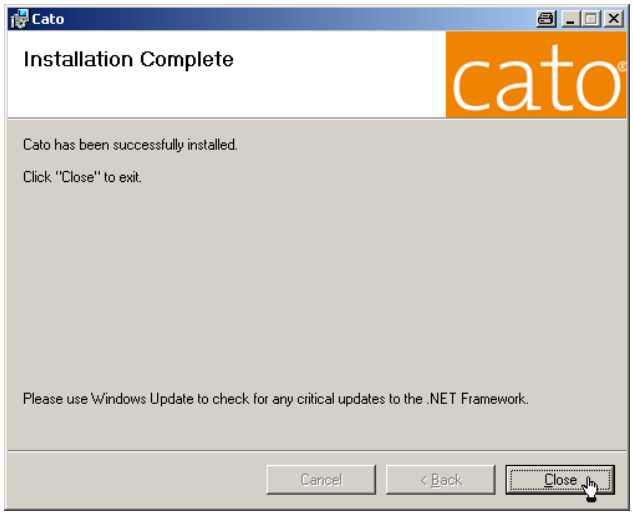
Copying and Registering Files

The actual installation starts now. A progress bar is displayed which documents the file copy process:



Completion

The following window appears:


Cato
Installation Complete
cato
Cato has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

Click "**Close**“.

3.3 Configuration of the Client-Database Access

3.3.1 Standard Configuration

If you have installed **cato®** client and Microsoft SQL Server or Microsoft SQL Server 2005 Express on one and the same computer, no further adaptation is required on this computer.

However, if you have installed the Microsoft SQL Server or Microsoft SQL Server 2005 Express on a different computer from where the Client is installed, you need to modify the configuration.

- **With Windows XP (32 bit)** and **Windows Vista (32 bit):** Click "**Start**" / "**Control Panel**" and double-click "**Administrative Tools**".
- Double-click "**ODBC Data sources**".
- In 64 bit systems, you need to access the 32 bit version of the ODBC data source explicitly. Navigate to the "**C:\Windows\SysWOW64**" folder and start the "**odbcad32.exe**" application.
- In the opening window, click "**System DSN**".
- Double-click the entry "**CATO**" which has been already created by the installation program, in the list.
- The input field at the bottom ("Server") contains the data server's name. The **cato®** installation program sets "(**local**)" by default, meaning that the server program is located on the same computer. Replace this entry by the actual data server's name.
- Click "**Next**".
- **If you are connecting to the Microsoft SQL Server 2005 Express as server software, please proceed as follows:**
- Make sure the "**With SQL Server authentification using a login ID and password entered by the user**" option is selected.
- Make sure the "**Connect to SQL Server to obtain default settings...**" checkbox is activated.
- Enter "**CatoClient**" in the login ID field (without quotation marks).
- Enter "**powidl0815**" in the password field (without quotation marks).
- Please note that the Microsoft SQL Server 2005 Express has been installed under the specified SQL server instance "CATOSERVER" so that you have to connect with this instance. (e.g.: YOURSERVER\CATOSERVER)
- **If you are connecting to an Microsoft SQL server, please proceed as follows:**
    - Select either SQL-Identification with Login and Password or with "Trusted Connection"
    - Make sure the "**Connect to SQL Server to obtain default settings...**" checkbox is activated.
    - With SQL identification with Login and Password, select the Login and Password you have specified with the server configuration.
- Click "**Next**"

- If an error message is returned, no connection to the server can be established. First make sure the server is turned on and properly connected to the network. If this is the case, click the "**Client Configuration**" button. In the opening window you can select different "**Network Libraries**". You should select "**TCP** / **IP**" or "**Named Pipes**". Click "**OK**", and then "**Next**"
- Make sure that the checkbox "**Change the default database to**" is selected.
- Make sure that "**CATO**" (without quotation marks) is written in the input field below.
- Cick "**Next**"
- Make sure "**English**" is selected in the "**Change language of SQL server system messages to:** " input field.
- Cick "**Finish**"
- Click "**OK**".
- Click "**OK**" again to close the ODBC configuration window.
- Close the "**Control Panel**" window.

3.3.2 Accessing the cato® Database via another ODBC Entry

As previously described, the **cato**® database is usually accessed via the ODBC entry "**cato**". However, it is also possible to set another ODBC entry for the access. You must create the entry

ODBC=*Name of the ODBC data source*

in the configuration file "**cato**.ini" in the "**C:\Documents and Settings\All Users\Application Data\Cato Software Solutions\Cato**" program directory. This enables you to parallel two **cato**® installations on one computer, each accessing another ODBC entry and, if desired, another database.

3.3.3 Client Settings for "Trusted Connection"

If you select **cato**® "Trusted Connection" with clients in the ODBC entry, **cato**® will automatically try to match the Windows-user with a user in the **cato**® user database. It is advantageous as no extra password needs to be entered when starting **cato**®. However, if you still wish to have an own user identification with "Trusted Connection" in **cato**® (or if you need it upon the first call), go to the **cato**® **Appdata** program directory ("C:\Documents and Settings\All Users\Application Data\Cato Software Solutions") on the client-computer and double-click the file *CatoSoftwareGlobalSettings.xml*. Replace the value "InaktivNichtGesetzt" between <SingleSignOn></SingleSignOn> by "Inaktiv". Thus, **cato**® is forced to perform an own user identification. Replace the value by "Aktiv" to reset **cato**® into the mode where it accepts the Windows user as **cato**® user.

3.3.4 Citrix and Windows Terminal Server Installations

Operating **cato**® in Citrix- or Windows Terminal Server environments is possible, once the environment variable "ClientName" is available and its value is not set to an empty string or to "console". This does not apply to computers for gravimetric preparation which are connected to a balance. These computers cannot be operated in a Citrix or Windows Terminal Server environment.

In order for the environment variable "ClientName" to be considered, the following entry must be added to the **cato.ini** file in the *C:\Documents and Settings\All Users\Application Data\Cato Software Solutions\Cato* program folder in Citrix- or Windows Terminal Server environments: **UseClientNameEnvVar=1**. This allows for determination of the Client's name from the environment variable 'ClientName'.

3.4 Other Client Installation Configurations

3.4.1 Disabling Voice Control

The Voice Control feature can be permanently disabled by adding the following entry to the **Cato.ini** file in the *C:\Documents and Settings\All Users\Application Data\Cato Software Solutions\Cato* program folder:

SpeechEnabled=0.

This entry can be used if problems of sound mapping occur in Citrix environments. These problems are manifested in the error message "**Runtime Error - Object disconnected from clients**" when starting Cato.

3.4.2 Admitting Several Instances

For general security reasons, only one instance of **cato®** can be run on one computer at a time. By adding the entry

MultipleInstances=1

in the **cato.ini** file in the *C:\Documents and Settings\All Users\Application Data\Cato Software Solutions\Cato* program directory, this feature can be disabled and several instances of **cato®** can be executed simultaneously.

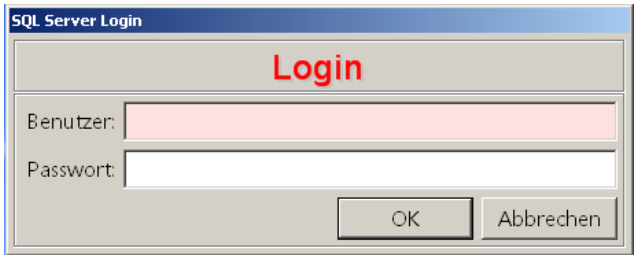
3.4.3 Windows User Rights Required for the Operation of cato®

For the operation of **cato®**, no specific user rights are required.

3.5 Installation Configurations After The First Start of cato®

3.5.1 Getting Started

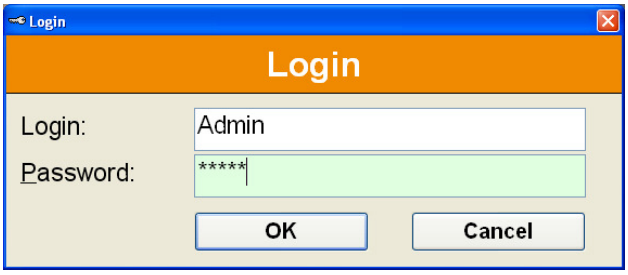
If the ODBC entry is not set to "Trusted Connection", the **cato®** client is attempting to connect with the SQL server with the SQL-Login "CatoClient" and the Password "**powidl0815**" as default. If this connection attempt fails, the following window is displayed upon the first start:



Here, you can enter the corresponding SQL login and password for connecting with the **cato®** database. After successful connection with the database, Login and Password (the latter encrypted) are saved in the **cato.ini** file.

3.5.2 User Login

Working with **cato®** requires authentication with a specified **cato®** username and password. This follows right after you have started the program.



If you log in for the first time, please enter the preset user "**Admin**" with "**Admin**" as password.

3.5.3 User Login with Trusted Connection

In this specific login mode **cato®** does not request username and password, but obtains both user and password from Windows™. If the user logs in as e.g. "John" in Windows, he is automatically logged in as user "John" in **cato®** as well. However, in case there is no user named "John" in **cato®**'s user database, starting **cato®** fails.

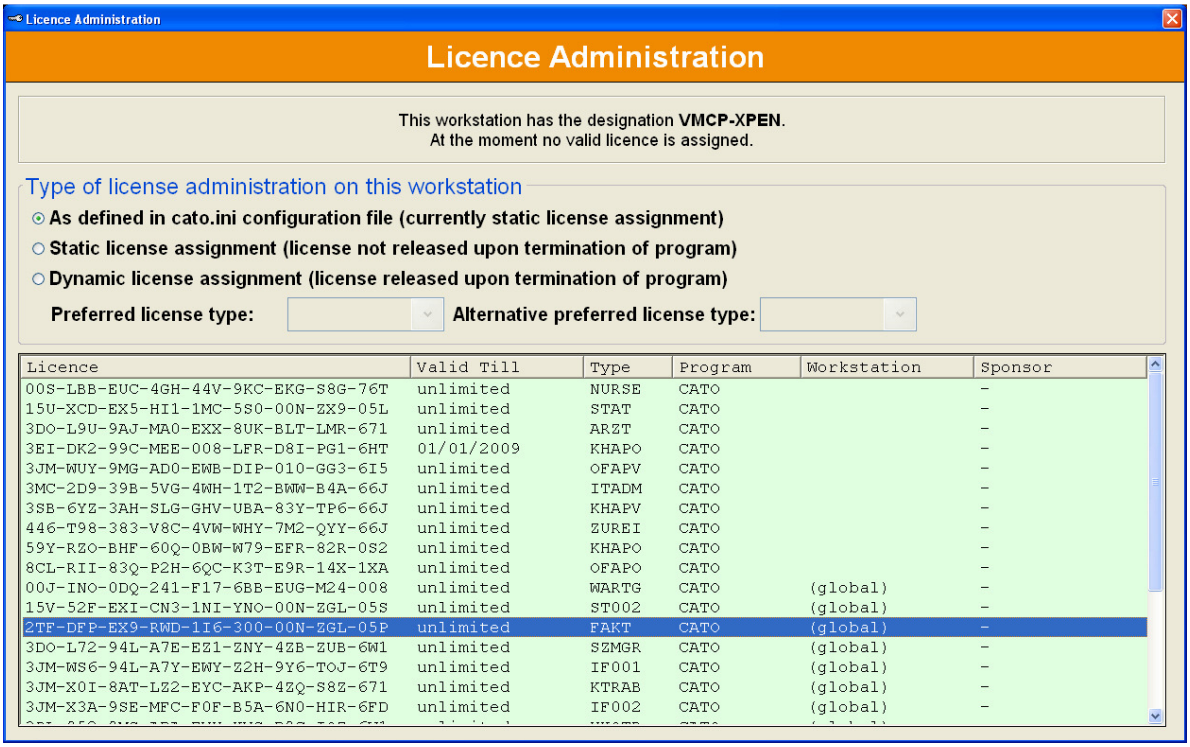
The "Trusted Connection" mode in **cato®** is automatically activated if the ODBC entry "**cato**" is set to "Trusted Connection" or, as described in Chapter 3.3.3, the "Trusted Connection" mode has been triggered by setting the SingleSignOn value to "Active".

Before activating the "Trusted Connection" mode in **cato®**, you should first create at least one user with Administrator rights with their Windows login name.

3.6 License Administration

3.6.1 Importing License Keys

Before you can start working with **cato®**, you need to import one or more licenses from the license file provided by Cato Software Solutions into the database. Therefore, the "**License Administration**" program section appears upon the first start of **cato®** (after entering Login and Password):


Licence Administration
Licence Administration
This workstation has the designation VMCP-XPEN.
At the moment no valid licence is assigned.
Type of license administration on this workstation
As defined in cato.ini configuration file (currently static license assignment)
Static license assignment (license not released upon termination of program)
Dynamic license assignment (license released upon termination of program)
Preferred license type:
Alternative preferred license type:
Licence | Valid Till | Type | Program | Workstation | Sponsor
00S-LBB-EUC-4GH-44V-9KC-EKG-S8G-76T | unlimited | NURSE | CATO | | -
15U-XCD-EX5-HI1-1MC-5S0-00N-ZX9-05L | unlimited | STAT | CATO | | -
3DO-L9U-9AJ-MA0-EXX-8UK-BLT-LMR-671 | unlimited | ARZT | CATO | | -
3EI-DK2-99C-MEE-008-LFR-D8I-PG1-6HT | 01/01/2009 | KHAPO | CATO | | -
3JM-WUY-9MG-AD0-EWB-DIP-010-GG3-6I5 | unlimited | OFAPV | CATO | | -
3MC-2D9-39B-5VG-4WH-1T2-BWW-B4A-66J | unlimited | ITADM | CATO | | -
3SB-6YZ-3AH-SLG-GHV-UBA-83Y-TP6-66J | unlimited | KHAPV | CATO | | -
446-T98-383-V8C-4VW-WHY-7M2-QYY-66J | unlimited | ZUREI | CATO | | -
59Y-RZO-BHF-60Q-0BW-W79-EFR-82R-0S2 | unlimited | KHAPO | CATO | | -
8CL-RII-83Q-P2H-6QC-K3T-E9R-14X-1XA | unlimited | OFAPO | CATO | | -
00J-INO-0DQ-241-F17-6BB-EUG-M24-008 | unlimited | WARTG | CATO | (global) | -
15V-52F-EXI-CN3-1NI-YNO-00N-ZGL-05S | unlimited | ST002 | CATO | (global) | -
2TF-DFP-EX9-RWD-1I6-300-00N-ZGL-05P | unlimited | FAKT | CATO | (global) | -
3DO-L72-94L-A7E-EZ1-ZNY-4ZB-ZUB-6W1 | unlimited | SZMGR | CATO | (global) | -
3JM-WS6-94L-A7Y-EWY-Z2H-9Y6-TOJ-6T9 | unlimited | IF001 | CATO | (global) | -
3JM-X0I-8AT-LZ2-EYC-AKP-4ZQ-S8Z-671 | unlimited | KTRAB | CATO | (global) | -
3JM-X3A-9SE-MFC-F0F-B5A-6N0-HIR-6FD | unlimited | IF002 | CATO | (global) | -

In the menu bar selection, click "**File**" / "**Open License File**" (or simply use the "**Ctrl+O**" shortcut). In the dialog box opening, select the license file. Click "**Open**" (or simply press "Enter" ("↵" key). In a dialog box, **cato®** informs you how many licenses have been imported, and the imported licenses are shown as license keys. Select one of the imported license keys and click the menu item "**File**" / "**Apply selected license for this workstation**". The selected license is now assigned to this computer.

3.6.2 Dynamic License Administration with Modification of the Cato.ini File

Per default, available licenses are assigned to the individual computers statically. If one workstation does not have any more licenses, the user is supposed to manually "withdraw" the license from another workstation. However, it is also possible to add the entry

DynLicenseType=x

to the **cato.ini** file in the *C:\Documents and Settings\All Users\Application Data\Cato Software Solutions\Cato* program folder, whereby "**x**" is to be replaced by the following values:

0 ... Hospital pharmacy full license

1 ... Hospital physician license

2 ... Pharmacist full license, public pharmacy

3 ... License for practicing physician

9 ... Hospital pharmacy license, volumetric only

10 ... Pharmacy license public pharmacy, volumetric only

12 ... Assistant license

If such an entry is available, **cato®** will automatically try to retrieve a free license of the specified license type upon program start. When closing **cato®**, the license is released again.

3.6.3 Dynamic License Administration with Modification of the License Administration

Further, it is also possible to determine whether licenses for the current workstation shall be administered explicitly statically or dynamically (independent from settings in the **cato.ini** configuration file).

With dynamic administration, you can define which license type shall be retrieved for the relevant workstation automatically when starting **cato®**. In case this is not possible, a secondary license type can be defined. This new system allows now also for Citrix environments to define mixed static and dynamic license assignments (with different license types) per workstation.

3.7 Setting up a Network Path for Auto-Updates

If **cato®** has been installed on several computers, it is recommended to create a network share in order that updates function correctly in the future. Register the path in **cato®** under "**Administration**" / "**Settings**" / "**General Settings**" / "**Network Path for Auto-Updates**" as a central Auto-Update directory in the form of a UNC path. This path will be saved in the **cato®** database.

Please note that the path name must not exceed the maximum number of 50 characters.

With a single installation, a local path can be determined here alternatively.

Once such a directory has been created, and a **cato®** update is being carried out on one computer, all new program files will be automatically copied into this directory.

If **cato®** is run on another computer, where no update has been performed before, **cato®** is checking whether there are new program files in this directory and updates itself if necessary. Thus you do not have to import an update on every single computer, which is of course a significant time saving.

- **User Rights for the Cato Auto-Update Directory**

Please note: in order to guarantee the correct functioning of the update process, it is necessary to assign at least a "Read" right to the Cato Auto-Update directory, for both the **cato®** user and the Windows user group "Domain Computers"!

4 Hardware Configuration

4.1 Electronic Balance

To support the gravimetric preparation method, an electronic balance can be connected to **cato®**.

With gravimetric preparation, the balance is provided inside the safety cabinet. **Cato®** is compatible with the following manufacturers

- Mettler-Toledo,
- Sartorius, and
- Kern,

which can be connected to the computer's serial port. It is essential that the balance have a capacity of at least 2000 g and feature a sensitivity of 0.01 g over the total capacity.

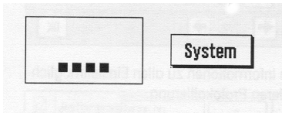
The safety cabinet must be equipped with an aperture for the balance's serial cable. To connect the balance to the PC, a serial interface must be free on the computer. If there is no serial port available, a USB/Serial Adapter can be used.

The use of such an adapter requires that the corresponding driver be installed, which is normally provided with the adapter.

4.1.1 Preparatory Configuration of Mettler-Toledo Balances

If you are using Mettler-Toledo balances, make sure the device is set to "**Gramm**" as unit and check the **appropriate damping** as well. The higher the damping, the better the measurements are reproducible and the less sensitive the balance to vibrations. On the other hand, a high damping causes a slower weighting. With the settings for "Peripheral Devices", select preferably "**Host"**, and with "Data Transfer Mode**"** set "**Cont"** (continuous data transfer). Modern Mettler balances can be connected to the computer's serial interface directly with a 1:1 serial cable. With older models, an own adapter is required.

In the following, we describe the settings for a XS 4002 (recommended by cato Software Solutions). In order to work with **cato®**, you must change a few settings with your Mettler XS.

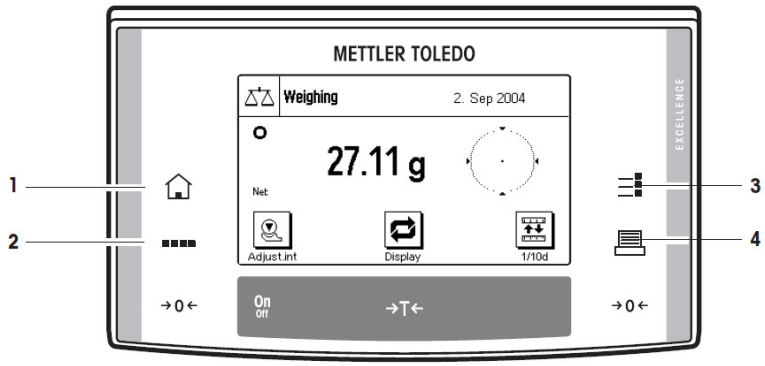
Open the System Settings by pressing the < > button (on the left on the balance) and then press "System" (at the bottom of the menu list).	
Select "Set weighing parameters" with the corresponding buttons:	

Menu Entry	Setting	Note
Weighing mode	"Control weighing“	The balance only reacts to major weight differences; weighing results are very stable.
Environment	"turbulent“	In case you have an especially vibrating safety cabinet, this might be even "very turbulent"
Result Release	"Reliable“	You can try and select a faster setting, if test results allow ATTENTION: a similar value can be set in **cato®** (number of identical weights with balance settings).

In the **"Hardware Configuration"** program section make sure that the checkbox **"Balance available"** is activated. In the next step (balance type), select either "**Mettler old models"** or "**Mettler new models"**. All other parameters can be set manually or press the "**Search..."** button.

ATTENTION – dangerous default setting!

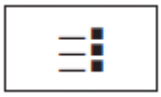
With "Mettler Toledo XS4002" and other XS models, the button for switching between 1/100 gand 1/10g precision is activated by default! Touched unintentionally, the last decimal place will be ignored and the results might lead to roundings in **cato®** that are not conform with the standards of gravimetric preparation.



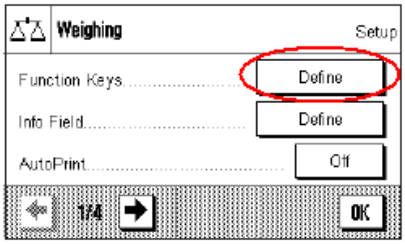
We highly recommend to remove this button as follows:

First, make sure that the balance is in **1/100g mode**. When tared, the balanace should show "**0.00 g".** If "0.0 g" is displayed, it is in 1/10g mode and has to be reset with the button shown above.

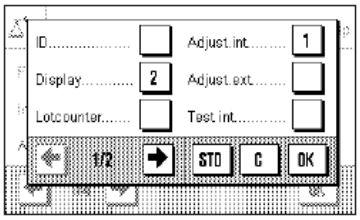
Press the button "3" (see above) to configure the settings.

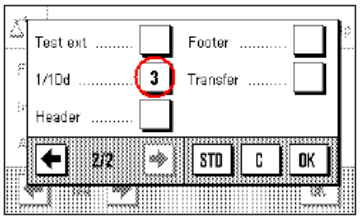


Select "Define function keys"



Go to Page 2 using the lower arrow keys and remove the entry with "*1/10d*". No figure should be displayed in the square next to "*1/10d*".





Confirm by pressing OK twice. The button for changing precision should no longer be displayed now!

4.1.1.1 Configuring Mettler-Toledo Balances for Bluetooth

Preparing the Balance

On the Mettler-Toledo balance, the following parameters must be set in order to switch from RS232 to the Bluetooth mode:

"...." -> System-> Periphery

Set "BTS Option“ as Host → Define

Select ANSI/WIN as CharSet.

Click "OK" three times and then "Exit“ to return to the regular weighing mode.

Preparation Windows / Laptop

Make sure Bluetooth is activated on your computer and that it is able to detect new devices. If in doubt, refer to the respective user's manual.

Establishing the connection

In the Bluetooth Manager, first select "Add hardware". The Bluetooth balance's name is "Balance“, followed by the BTS Option's MAC address. When adding a Bluetooth device, a PIN code must be entered. The default value for this PIN is "Mettler-Toledo“. Now the SPP Data service must be activated and configured. In the configuration mask, leave the "Secure Connection" option activated. The COM Port can be selected but should be noted as it will be required in **cato®** later on. Now you are ready to connect the device in the Bluetooth environment. With the balance type set to "Mettler-Toledo“ in the "Hardware Configuration" and the correct COM Port selected, the balance should be now working.

4.1.2 Preparatory Configuration of Sartorius Balances

Also with Sartorius or Kern balances, it is necessary to change certain settings of the balance manually. For more information please contact Cato Software Solutions. Please note that Sartorius balances may be connected to the computer only with a special cable provided by Sartorius. In case you are using a different cable the balance can switch into maintenance mode that can only be reset by a Sartorius technician.

The list below contains the recommended settings. For the key functions of the balance for setting the respective menu parameters, please refer to your Sartorius manual.

Menu 1 (Weighing Settings)

1 – 1: Environment Conditions:

1 – 1 – **3**: turbulent environment *or*

1 – 1 – **4**: very turbulent environment

1 – 6: Protocol Format (Attention: with Sartorius CPA/GCA/GPA models, this setting is listed under 7-2-1)

1 – 6 – 6 - 1: 16 characters

1 – 7: Weighing Unit

1 – 7 – **2**: Gram

Menu 5 (Interface settings)

5 – 1: Baud rate

5 – 1 – **5**: 2400 Baud *or*

5 – 1 – **7**: 9600 Baud

5 – 2: Parity

5 – 2 – **3**: Odd *(also other parities are allowed)*

5 – 3: Stopbits

5 – 3 – **1**: 1 Stopbit

5 – 4: Handshake

5 – 4 – **2**: 2 Hardware-HS

5 – 5: Operation Mode

5 – 5 – **1**: SBI (Serial Bus Interface)

5 – 6: Network address

5 – 6 – **1**: Address 0

Menu 6 (Data output)

6 – 1: Automatic / Manual

6 – 1 – **4**: Automatic without standstill

Only if this selection is not available with your balance, select

6-1-5 (Automatic with Standstill)

6 – 2: Cancel Automatic Printing

6 – 2 – **2**: Canceling not possible

6 – 3: Time-dependent Printing

6 – 3 – **1**: 1 Display Cycle

6 – 4: Taring after Printing

6 – 4 – **1**: Off

With Sartorius CPA/GCA/GPA models Menu 7

7 – 2: Protocol Format

7 – 2 – 1: 16 characters

4.1.3 Preparatory Configuration of Sartorius-Cubis Balances

The following configuration is required with Sartorius-Cubis balances in order to ensure proper functioning in **cato®**. To change the settings, you must be logged on as Administrator to the balance.

1. Press the **TASK** key
2. Select "**Edit**"
3. Create
4. Weigh

   Filter adjustment: turbulent environment

   Application filter: tare

   Standstill: exact

   Standstill-delay: short delay

   Zero-/Tare function: after standstill

   Autom. reset: on

   Default unit: Gram

   Display precision: all (decimal) places on

   Tare/Reset: on

   ⇨ Next

   Print output interface: Com A

   Protocol: SBI

   SBI output: automatic

   Autom. print format (16 characters) – when using calibratable data storage units, this value must be set to 22 characters

   Criterion for autom. print: without standstill

   Stop autom. print: not possible

Interv. autom. print: 1 cycle

5. Enter task abbreviation and description
6. Save

1. Press "**TASK**"
2. Select previously defined task
3. Press "**Menu**"
4. Configure device
5. Configure interface
6. Configure serial interfaces
7. Periphery connection

   Operation mode: SBI

   Baud rate: 9600

   Data bits: 8

   Parity: none

   Stopbits: 1
8. Save

After completing these settings, press "TASK" again and reload the predefined task. Start **cato**® and proceed with the configuration in **cato**®.

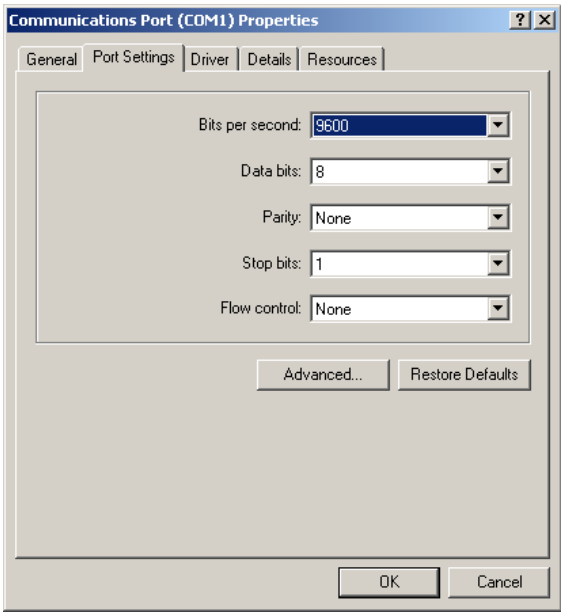
4.1.4 Preparatory Configuration for Calibratable Balance Storage Sartorius GPA Series

On the balance, the settings described below must be made. After turning on the balance, with the display on, press the "TARE" key. Increase the current selection by 1 by pressing the "CAL" key, use the key 2 (data output) to proceed to the next figure. Once figure 3 is selected, confirm the option by pressing "TARE". Press and hold the "TARE" key to apply the settings.

1-1-1	Turbulent environment
1-7-2	Gram
5-1-7	9600 Baud
5-2-3	Odd parity
5-5-1	SBI (Serial Bus Interface)
6-1-4	Automatic without standstill

6-2-1	Stop with key
6-4-1	Finish taring after printing: off
7-2-2	22 characters

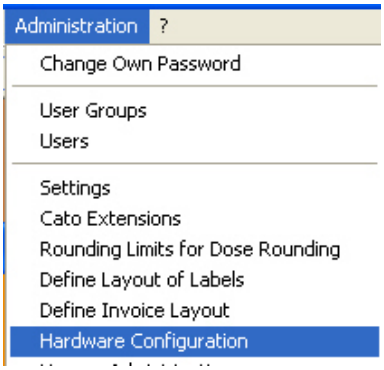
The target values are 9600 Baud, 7 data bits, 1 stopbit, odd parity and Hardware-Handshake. These settings must be selected on the corresponding COM-Port in the Device Manager in the Control Panel.



The same settings must be made in **cato®** under "Administration" / "Hardware Configuration" as well. First, select "Calibratable data storage unit" in the dropdown menu and then "Sartorius 21 characters" on the right. The balance's serial number and manufacturer must be entered correctly as well.

4.1.5 Configuring the Balance in cato®

To configure a connected balance, go to the "**Administration**" / "**Hardware Configuration**" program section in **cato®**.

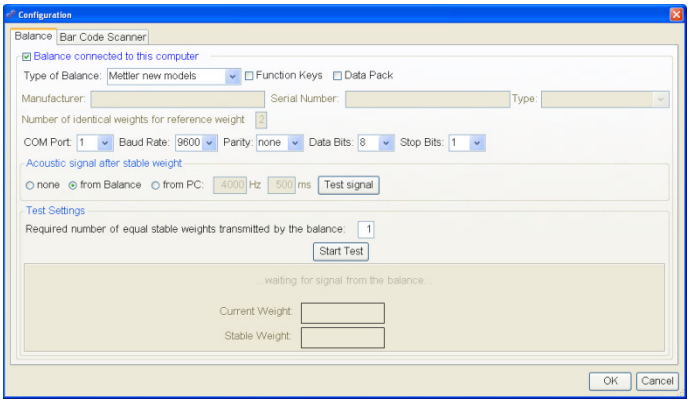


Make sure the balance is connected to the computer with the proper cable and turned on.

Attention: turn on the balance only after the operating system has fully booted, otherwise problems with the Windows "Plug-And-Play" function may occur.

- **Setting the Configuration Parameters**

In order for the balance to properly communicate with the computer, communication parameters of both devices must be coordinated. You can either configure the balance's parameters according to **cato®** settings or vice versa.



- In any case, you have to specify the correct balance model: **Mettler new models:** applies to all current Mettler-Toledo balances.
- **Mettler old models:** applies to some older Mettler balances (year of manufacture before 1999), especially for those with a DataPack.
- **Sartorius**: applies to all Sartorius balances
- **Kern:** applies to all balances by Kern..

If parameters have been set correctly, the weight measured by the balance should be displayed in the balance's test field. Once the weight on the balance is modified, the display will be refreshed on the screen. As soon as the balance is sending a stable weight to the computer, the mass unit in grams ("g") is also displayed with the numeric weight indication.

Important: if current weight changes with not yet stable weights are not displayed in the balance test field the balance is not yet configured properly and a correct functioning of cato® can not be guaranteed.

In case you would like to use a balance with function keys or a Mettler™ DataPac for controls in **cato®**, simply activate the corresponding checkbox ("**Function Keys**", "**DataPac**").

If you intend to use a balance with "**Function Keys**" in cato®, make sure the **corresponding checkbox for function keys** is activated!

- **Acoustic Signal After Stable Weight**

During preparation, **cato®** separates the individual steps from each other by waiting for a stable (leveled-off) weight sent by the balance. Thus, it is not necessary to press any key for confirmation between the individual steps of preparation. An acoustic signal can allow the user to proceed with the next step. Thereby, the following parameters can be set:

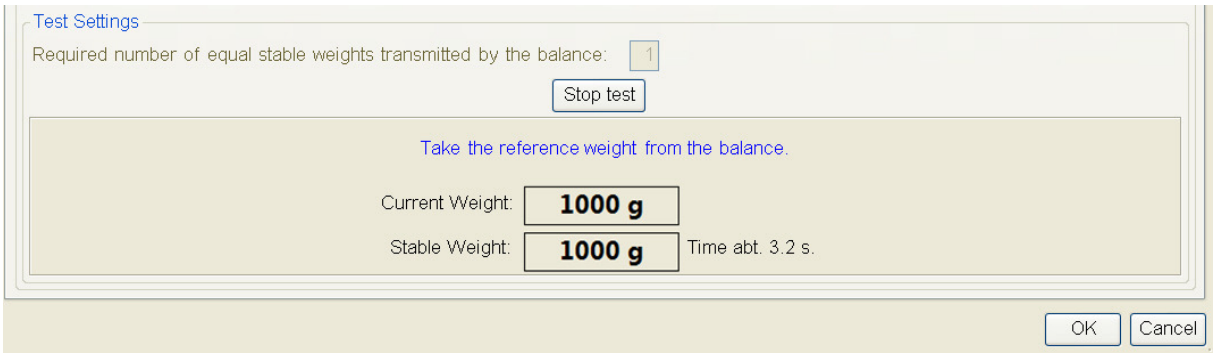
- Signal from balance: only available with some Sartorius balances.
- Signal from PC: the user can determine the frequency in Hertz as well as the length in milliseconds.

Click the "**Test**" button to play the signal.

- **Adjusting the Balance to Environmental Conditions**

In order to guarantee the correctness of stable weights sent to **cato®**, **cato®** can be instructed, not to accept the first stable weight immediately. Only after several stable weights have been sent, **cato®** will presume that the weight will not change anymore and accept it. The number of equal stable weights can be adjusted by the user.

The "**Adjustment of Balance to Environmental Conditions**" function allows adjusting the settings for the balance's damping as well as the number of equal weights sent by the balance according to objective criteria. Click the "**Perform Test**" button to start a test weighing. You will be requested to place (any) reference weight on the balance.



If the two values are different (e.g. 99.99 g and 100.00 g), it means that the balance has accepted a weight as correct too early and sent it to the computer. In this case, either the "**Necessary number of equal weights to be transmitted by the balance**" value can be increased, or a higher damping value determined (for Mettler balances, go to "**Disturbed environment**" in the balance's menu or "**high reproducibility of weighing results**" respectively, to adjust settings).

Note: This setting can considerably influence **cato®**'s working speed. Therefore, values should be determined rather lower, which guarantee reliable and reproducible weighing results.

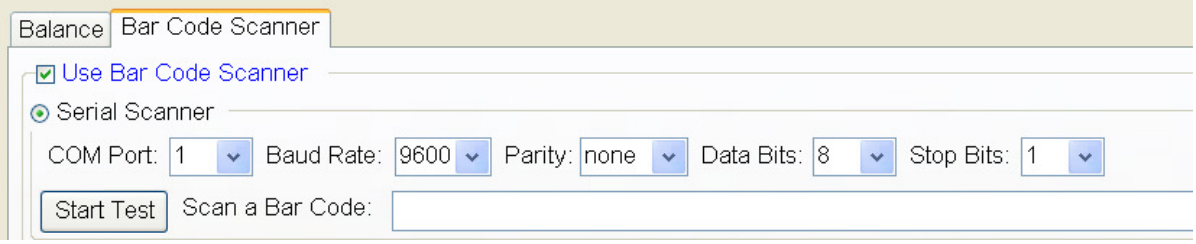
4.1.6 Calibratable Data Storage Unit

Due to the EU Directive 90/384/EWG, modified by 93/68/EWG, installing a calibratable data storage unit might be required.

For **every** balance used, **Appendix A** must be printed beforehand and Point "8.1 Preliminary Investigations“ filled out.
The activation code must be requested from SMT-MedTech, either via e-mail to support@smt-medtech.com or by phone at (+43) 0 2622 73 664.

4.2 Barcode Scanner

cato® also allows the use of a barcode scanner. Go to "**Administration**" / "**Hardware Configuration**" to adjust settings.



4.2.1 Serial Barcode Scanner

In order for the barcode scanner to properly communicate with the computer, communication parameters of both devices must be coordinated.

4.2.2 Scanner with Keyboard Connection

When using a scanner with keyboard connection, the following parameters must be set:

- **Terminating character**: select whether the scanner shall send **<ENTER>** or **<TAB>** as closing sign.
- If you wish to use the scanner per default to search in search forms please select "Jump to "**Barcode" field on Search Forms**".

4.2.3 Datalogic Matrix200 Barcode-Scanner

Cato provides Datalogic's Matrix200 Barcode scanner in a ready-to-operate state.

On every PC that will use the Matrix200 barcode scanner, the following file must be executed. Link: http://www.cato.eu/downloads/matrix200/USB-COM_Driver.exe

The following settings must be made in **cato®** in order for the scanner to work properly:

COM-Port: as appears in the Device Manager

Baud rate: 115200

Parity: None

Data bits: 8

Stopbits: 1

Should you encounter any problems, please refer to the detailed description of the Matrix200 configuration in Appendix B.

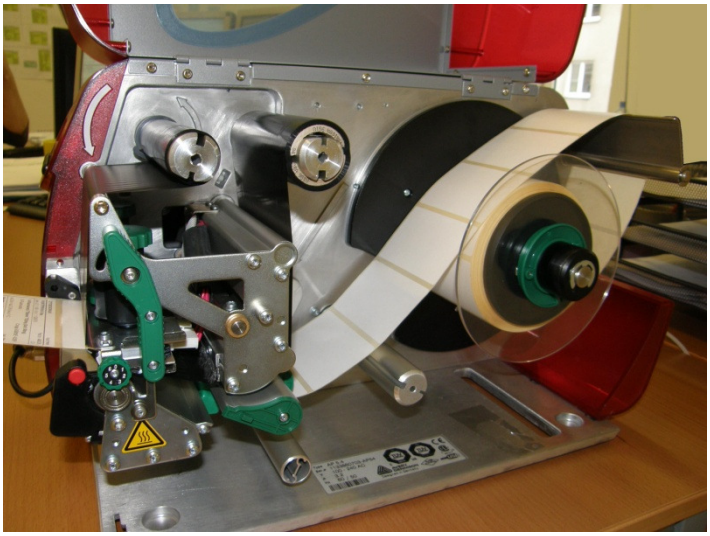
4.3 Label Printer

cato® can be used with any thermo transfer mode label printer, and with the required Windows driver. With gravimetric production, the label printer is usually placed in the cleanroom (so that the labels can be stuck on immediately) outside the safety cabinet.

Another possibility is to use cleanroom proof inkjet printers as e.g. provided by the company "**Primera**". This is somewhat more expensive but allows color printing.

4.3.1 Inserting the Label Roll and Print Foil - Avery Dennison 4.4

This chapter provides an overview on how to insert the label roll and the thermotransfer foil into the printer. For a more detailed description, please refer to the printer's manual. (Insert labels: Page 6 / Insert print foil: Page 11)

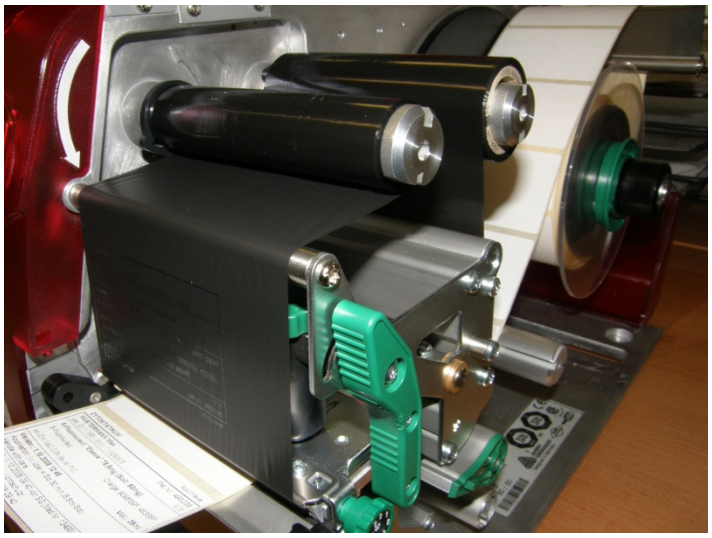


First, supply the printer with empty labels and color foil. Open the cover on the right side of the printer.

Please note that the labels must face outwards where inserted and look like in the picture below.

Now release the green handle (counter-clockwise) and insert the label roll as shown. Make sure the carrier foil is adjusted to the left.

The color foil is unspooled counter-clockwise, in other words, the front color foil tape is wound up and the back foil is unspooled.



The print side of the foil (matt side) must face outwards (in the labels' direction).

Now secure the green handle (clockwise).

Close the printer, connect it to the power cable and turn it on with the Power button on the backside.

4.3.2 Installing the Printer Driver

For navigation in the printer's menu, use the keys "Cut•▼" (down), "Feed•▲" (up), "Prog•Esc" (call menu or return to previous menu level) and "Online•¬" (next menu level or Enter).

To set the menu language to German, switch into Offline mode first (press the "Online•¬" key) as the menu (by pressing "Prog•Esc") can only be opened from here. The language settings are located under the menu "SYSTEM PARAMETER ► LANGUAGE" (towards the end of the list).

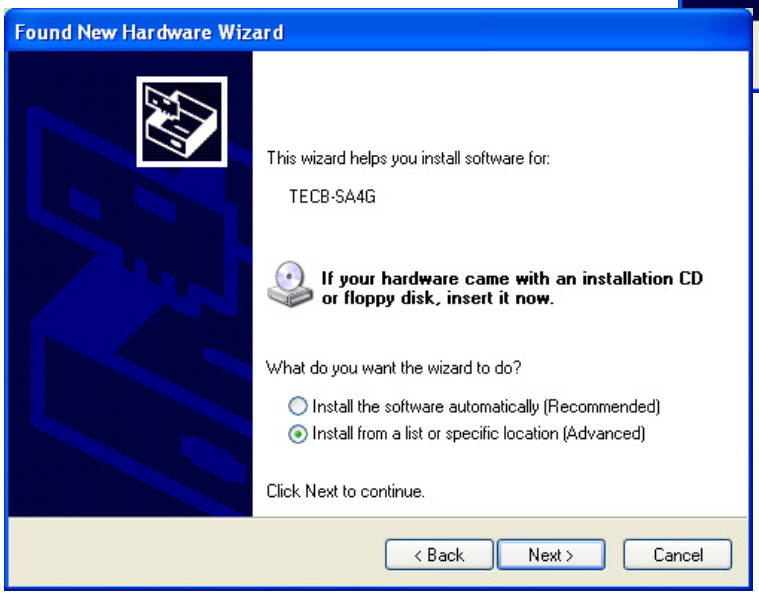
Now select USB as interface. Call the menu again (by pressing "Prog•Esc") and select "SCHNITTST.PARA". Select "EASYPLUGINTERPR PARAMETER ► Schnittstelle" and select "USB" from the list. Confirm by pressing "Online•¬". In case you are using a tearing edge, set the following parameters on the printer directly: "**Set System Parameters → Peripheral Device → Tearing Edge**".

Now switch to the Online mode (press "Prog•Esc" to exit the menu, then "Online•¬") and connect the printer to the computer by means of a USB cable.

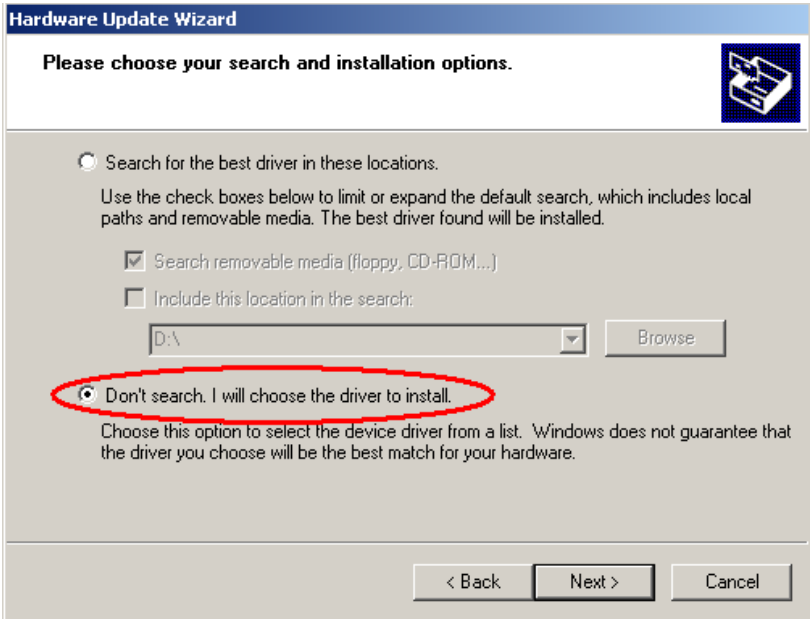
You will be guided through the installation process of the printer driver: after connecting the printer to the computer, the following window appears:

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

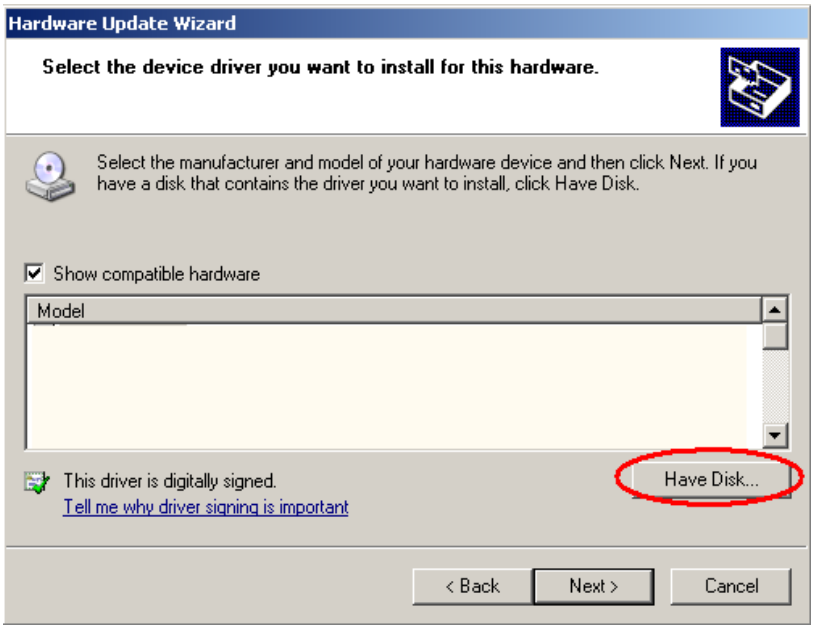
Select "**No, not this time**" and click "**Next**".


Found New Hardware Wizard
This wizard helps you install software for:
TECB-SA4G
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

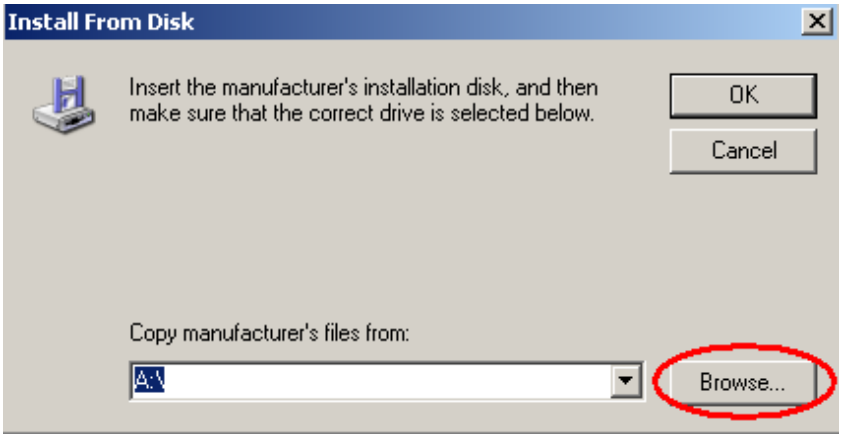
Since the required drivers are on the **cato**® CD, select "Install software from a list or specific location" and click "**Next**". Alternatively, you can also use the Avery Driver by Nicelabel - Download


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

Now select "**Do not search, manually select driver to be installed**".

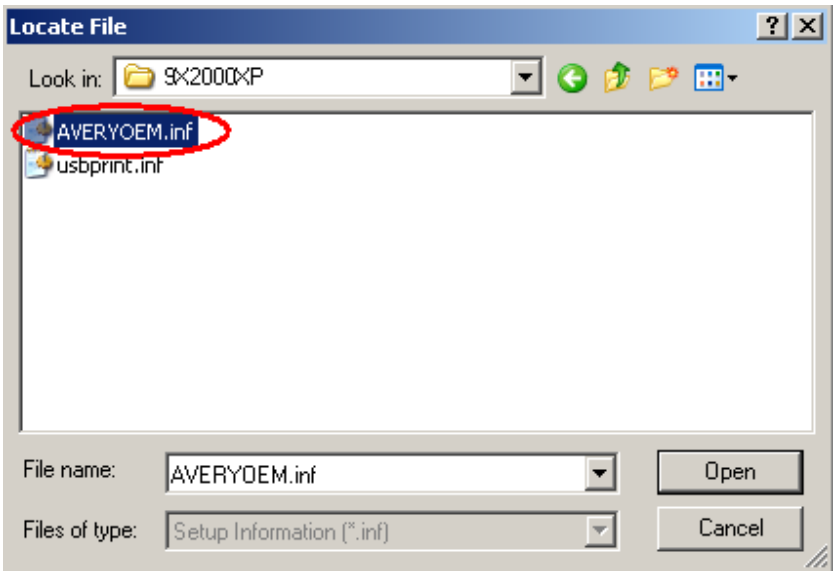

Hardware Update Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Show compatible hardware
Model
This driver is digitally signed.
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

Click "**Have Disk**".

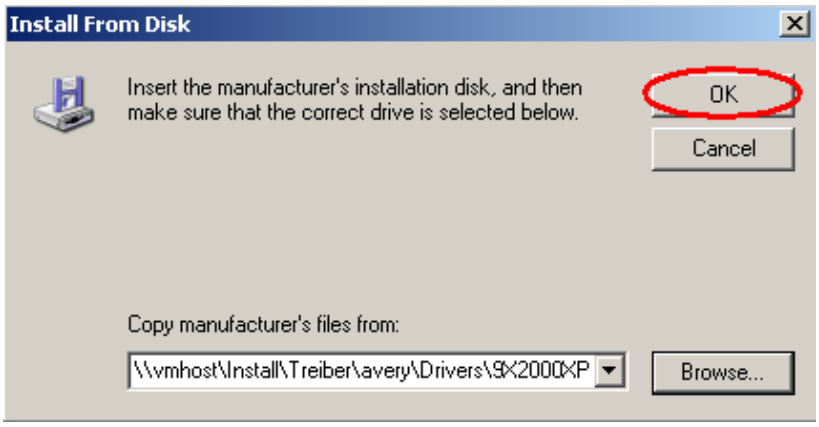


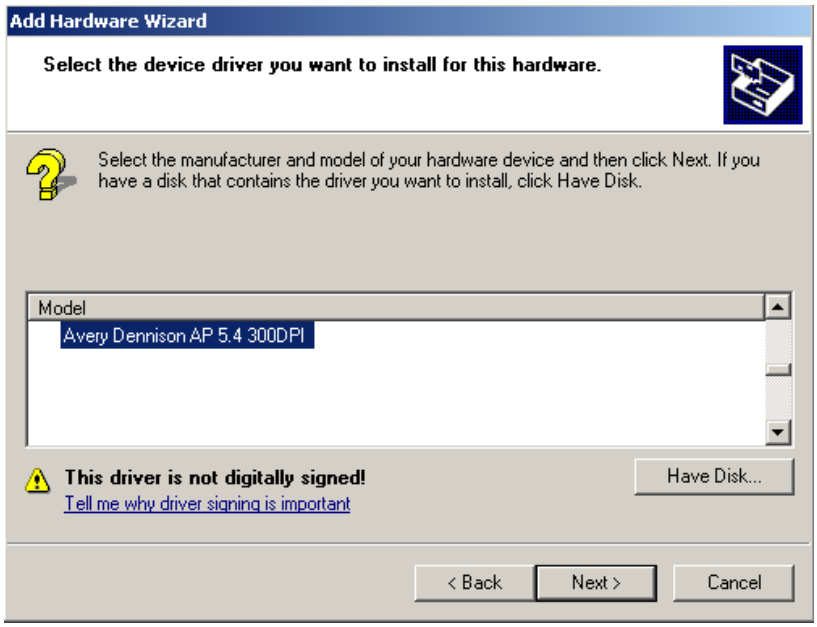
Click "**Browse**".

Select the highlighted driver from the CD.



Now confirm by clicking "**OK**"




Add Hardware Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Model
Avery Dennison AP 5.4 300DPI
This driver is not digitally signed!
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

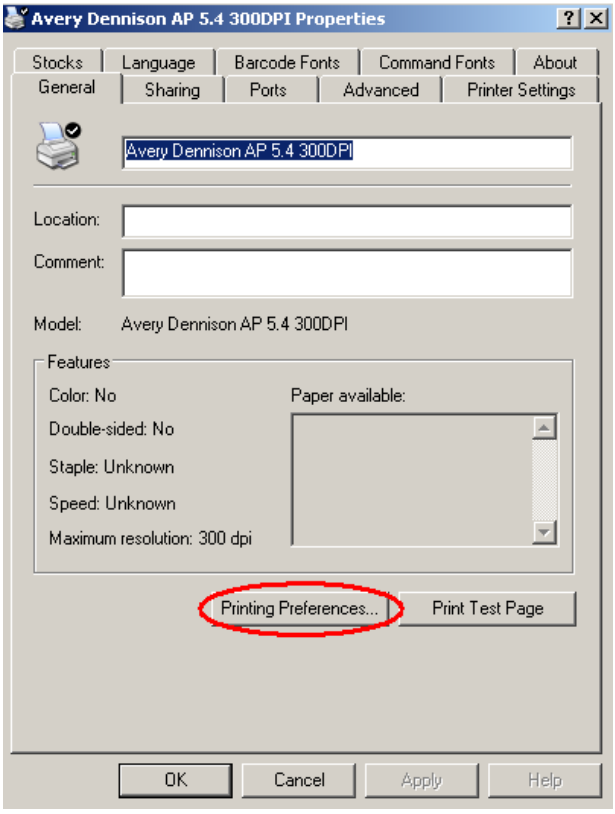
Now click "**Next**"

This information can be ignored, continue the installation with the corresponding button.

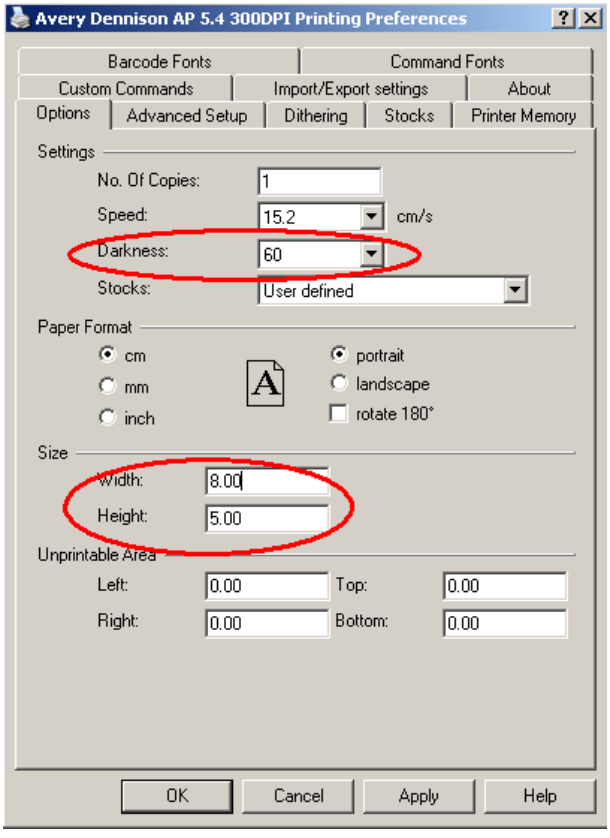
Hardwareinstallation
Die Software, die für diese Hardware installiert wird:
Drucker
hat den Windows-Logo-Test nicht bestanden, der die Kompatibilität mit Windows XP überprüft. (Warum ist dieser Test wichtig?)
Das Fortsetzen der Installation dieser Software kann die korrekte Funktion des Systems direkt oder in Zukunft beeinträchtigen. Microsoft empfiehlt strengstens, die Installation jetzt abzubrechen und sich mit dem Hardwarehersteller für Software, die den Windows-Logo-Test bestanden hat, in Verbindung zu setzen.
Installation fortsetzen
Installation abbrechen

The printer driver has been successfully installed. Close the wizard by clicking "Finish".

4.3.3 Configuring the Avery Dennison AP 4.4



The new printer is now listed under "Start" / "Printers and Faxes". Right-click the printer and select "Properties" from the context menu to see the printer's properties. Activate the "Printing Preferences" tab.



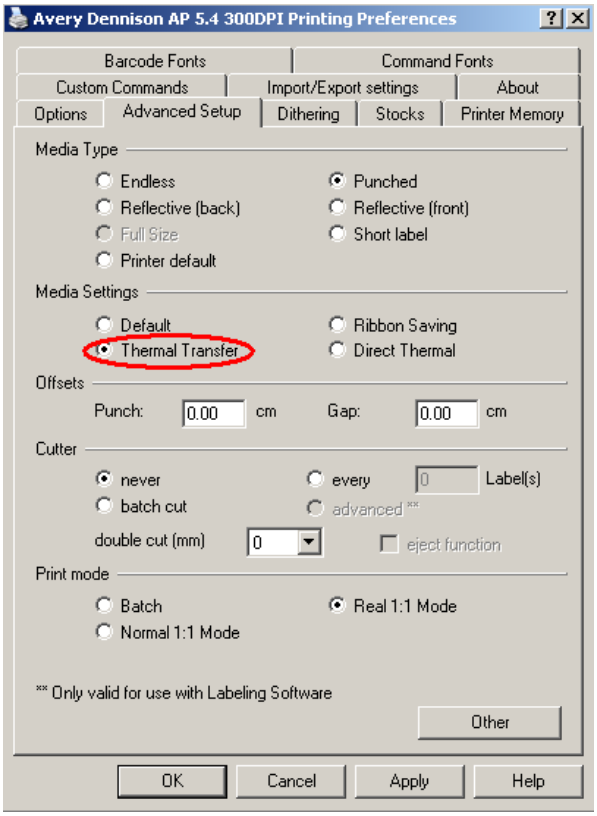
Under "Label Formats" or "Templates", you can now create a new label format called "cato".

Then select the following settings:

Width: 8.00 cm

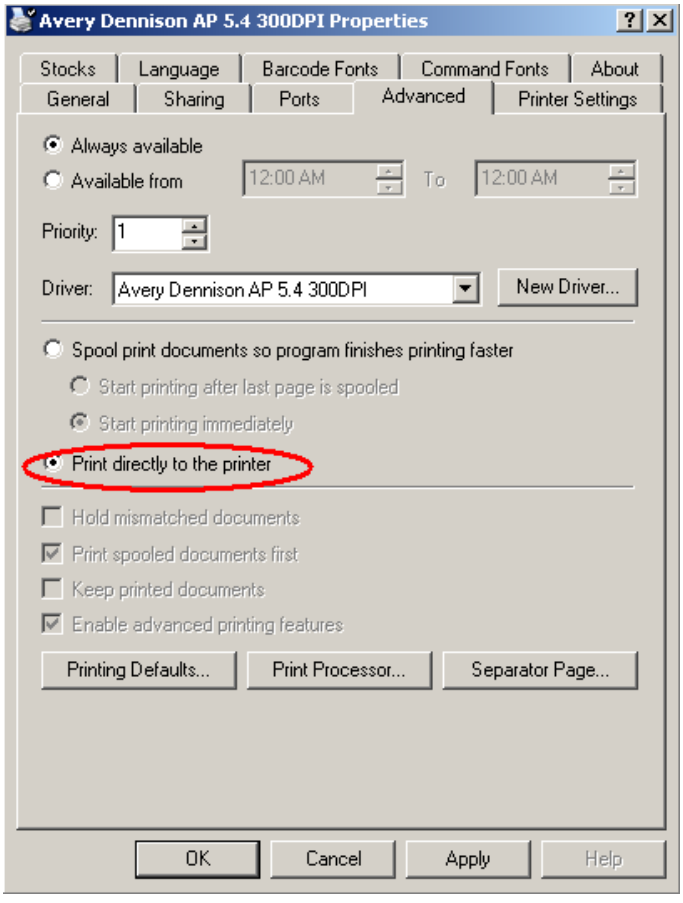
Height: 5.00 cm

Darkness: 75



In the "Advanced Settings" tab, activate the option "Thermotransfer". This will define the printer type.

For "Offset", define "Gap" with 0.30 cm.



Now activate the "Print directly to printer" option under the "Advanced" tab.

4.3.4 Configuring the Label Printer in cato®

- Make sure you can print a Windows test page on the label printer from the printer driver. (Start / Printers and Faxes ► right-click ► Properties ► "Print test page“) Continue only if this was successful.
- In **cato®**, go to the "Administration" / "Settings" / "Printer" program section and select "Label Printer"
- Select the desired label printer from the list and click "File" / "Save" (or the diskette icon)

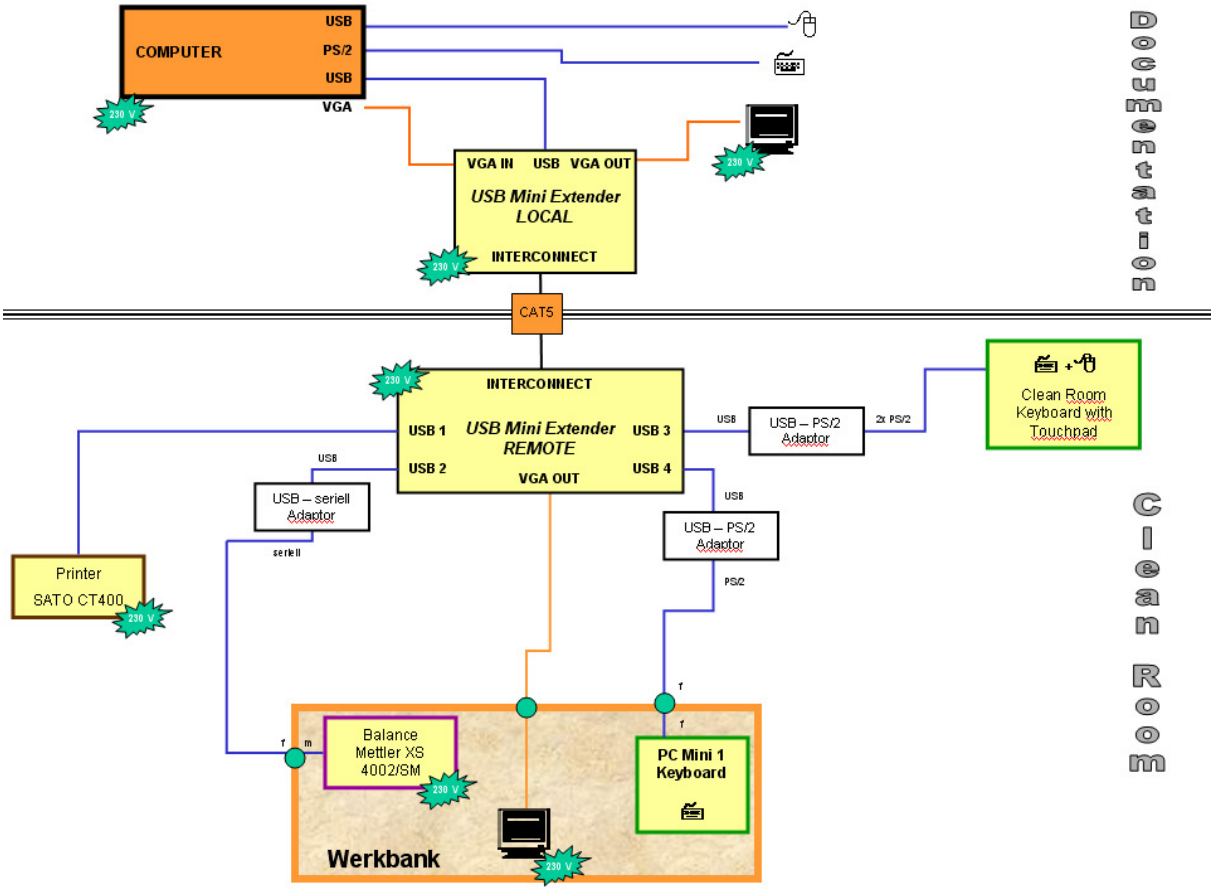
4.3.5 Printer for Reports, Prescriptions, and Invoices

- Make sure that printers are available in Windows to all users who work with **cato®** and intend to print reports.
- Go to the "**Administration**" / "**Settings**" / "**Printers**" program section
- Click "**Printer for Reports**"
- Select the desired printer.
- Click "**Save as default**"
- Proceed analogously with "**Printer for Prescriptions**" and "**Printer for Invoices**“

5 Special Case "Positioning the PCs outside the Cleanroom with Amplifiers"

As an alternative to a clean room PC you can either use a standard PC, which is positioned outside the clean room. Screen, mouse, and keyboards are connected to the remote PC via "KVM Line Extenders. For this purpose, Hanke & Hörner recommend the **USB Mini-Extender SD-VUE/50**. For connecting the "**Local**" station and the "**Remote**" station, a 1:1-KAT5 wiring is necessary, which is **not** integrated in the network. The VGA splitter shown in the following picture allows connecting both a screen integrated in the safety cabinet and one positioned next to it.

The following figure shows the required wiring:



6 Out-of-date Hardware Components

This chapter describes hardware components, which are no longer distributed by Cato Software Solutions, yet might be used in existing installations.

6.1 TEC B-SA4 Label Printer (black & white)

Cato Software Solutions recommends the TEC B452 label printer. This chapter contains notes on installation and configuration of the proper printer driver.

Both the driver and the installation instructions can be downloaded from our website

http://www.cato.eu

If you wish to use a different printer, make sure to install the corresponding printer driver and configure the device accordingly. Drivers for the most common label printers can be found at:

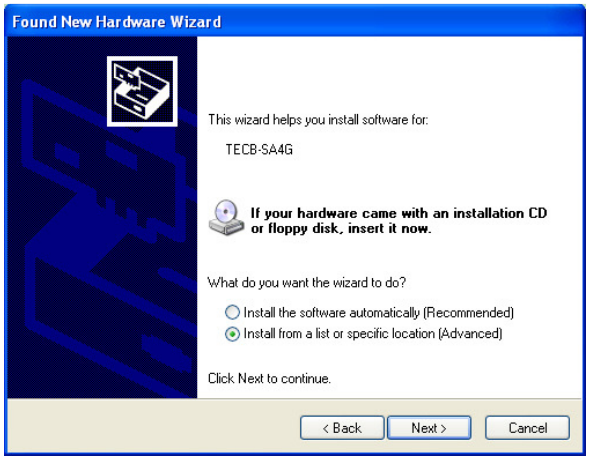
http://www.nicelabel.com/

The TEC B-SA4 label printer requires a free USB port. Insert label roll and ink ribbon. It is important to know that test-wise feeding with the "**FEED**"-button only works correctly once the printer driver has been configured.

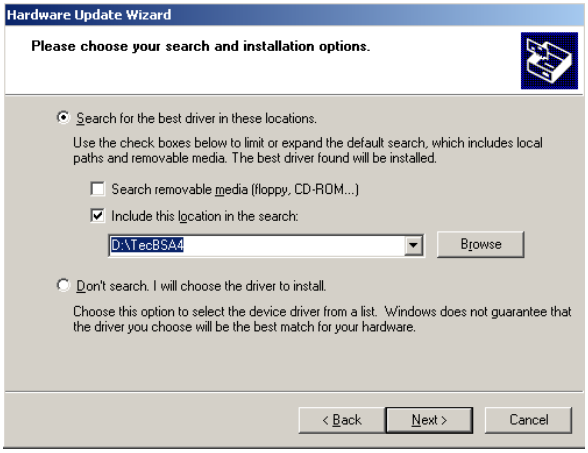
To install the printer driver insert the **cato**® installation CD in your CD drive. Then connect your printer to the computer via USB and turn it on. The computer will detect the new hardware and display the following window:

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Select "**No, not this time**" and click "**Next**".


Found New Hardware Wizard
This wizard helps you install software for:
TECB-SA4G
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

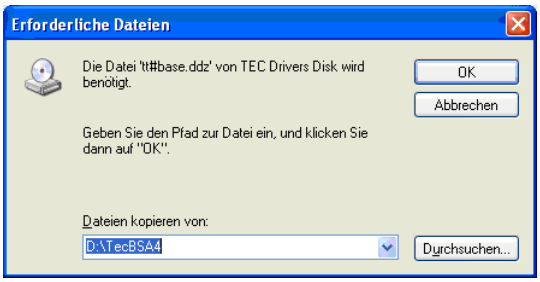
Select "Install software from a list or specific location" and click "**Next**".


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\TecBSA4
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

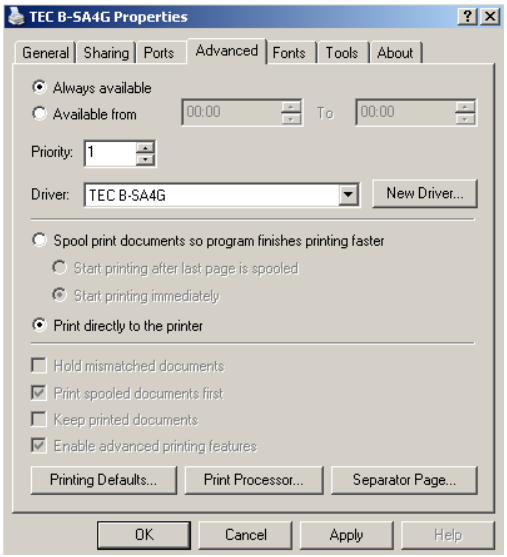
When prompted, enter the printer driver file's path, located in the "**TecB452\NiceLabel**" folder on your installation CD. After clicking, the following Windows error message might appear:

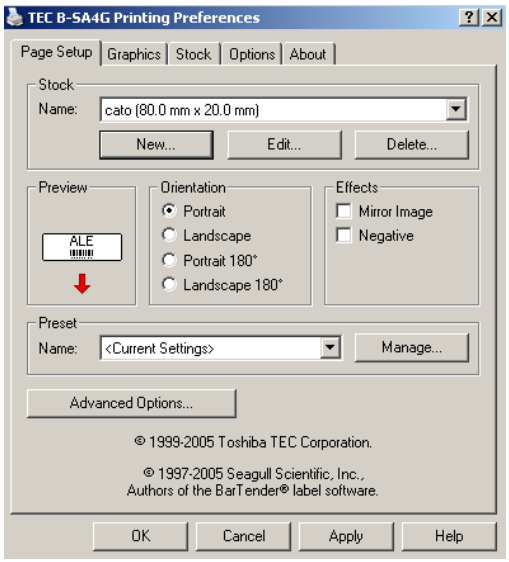
Hardwareinstallation
Die Software, die für diese Hardware installiert wird:
Drucker
hat den Windows-Logo-Test nicht bestanden, der die Kompatibilität mit Windows XP überprüft. (Warum ist dieser Test wichtig?)
Das Fortsetzen der Installation dieser Software kann die korrekte Funktion des Systems direkt oder in Zukunft beeinträchtigen. Microsoft empfiehlt strengstens, die Installation jetzt abzubrechen und sich mit dem Hardwarehersteller für Software, die den Windows-Logo-Test bestanden hat, in Verbindung zu setzen.
Installation fortsetzen
Installation abbrechen

Select the "Continue installation“ option. The wizard now asks for a CD or another path. Click "**OK**“. For unknown reasons, one file has not been installed with our test installations and had to be installed separately. Enter the same path again and click "**OK**“ and then "**Finish**“.



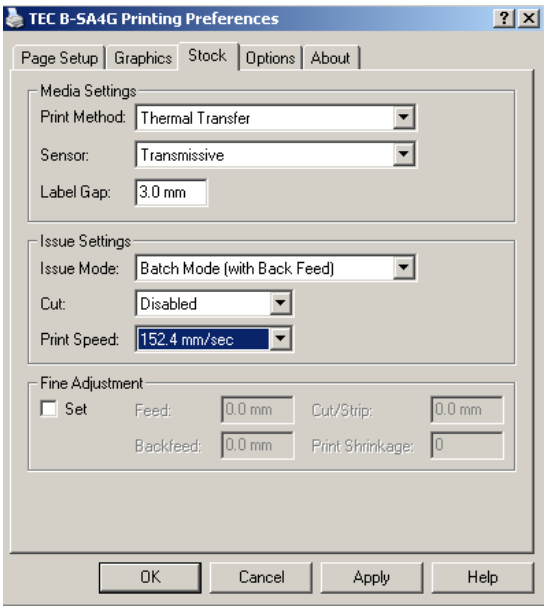
After the installation go to the "**Start**" / "**Settings**" / "**Printer**" window and right-click the printer icon "**TEC B-452**". From the context menu select "**Properties**". Click "**Advanced**“. Select the menu item "**Spool print documents to program finishes printing faster**" (printing process is finishing considerably faster). Attention: if "network sharing" has been selected for the printer (not recommended) this option is not available as network sharing would not work otherwise:

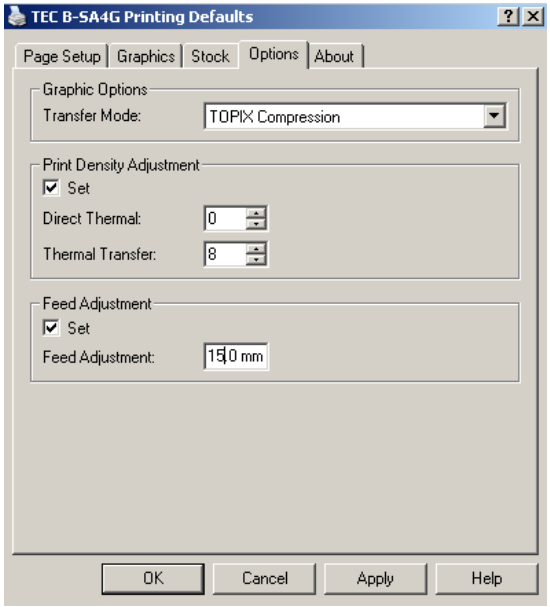




In the "**General**" section, click "**Printing Preferences**" and create a new label template by clicking "**New**" and then enter "80.0" for width and "50.0" for height. Set margins to "0". For the name, enter "cato".

Select the "**Label**" and "**Options**" tags, respectively, and enter the following values:





Click "**Apply**" and then "**OK**".

6.2 TEC B452 Label Printer

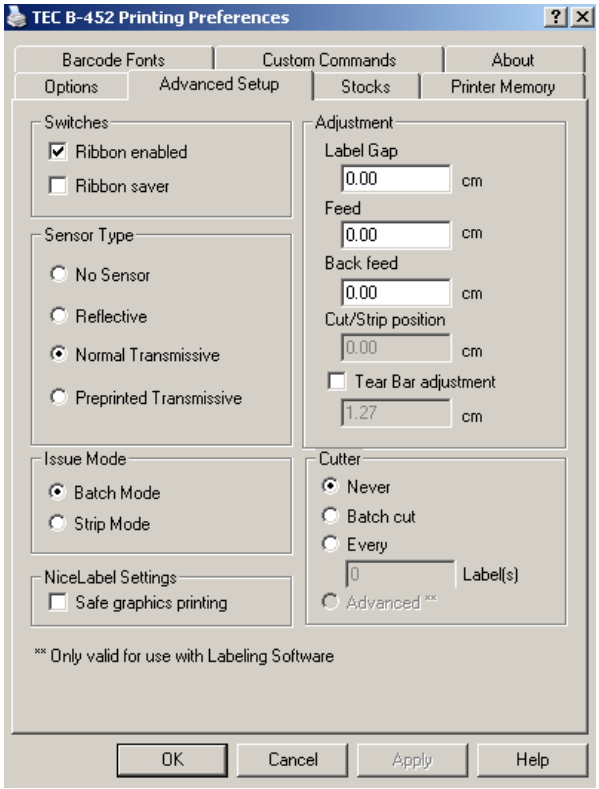
This chapter contains information regarding the configuration of the TEC B452 Label Printer driver.

The TEC B452 requires a free parallel interface for connection. If no parallel interface is available or free, a USB/parallel adapter can be used instead.

The use of such an adapter requires the installation of the proper driver, which usually comes with the adapter.

To install the printer driver, insert the **cato®** Installation CD into the drive and click "**Start**" / "**Settings**" / "**Printers**". In the opening window, double-click the "**New Printer**" icon. The "Printer Installation Wizard" appears. Follow the installation instructions on the screen. When prompted, enter the printer driver's path, which is located in the "TecB452\NiceLabel" directory of the **cato®** Installation CD. Due to the higher reaction rate, and in order to avoid a mix-up of labels, the printer should be installed as a local printer, if possible, and only in exceptional cases as a network printer.

After completion of the installation, a symbol for the "**TEC B-452**" printer will appear in the "**Start**" / "**Settings**" / "**Printers**" window. Right-click the symbol and select "**Properties**" from the context menu. Now click "**Advanced**". In this window, select " **Spool print documents to program finishes printing faster**" (printing process is finishing considerably faster). Attention: if you have enabled the printer in the network (not recommended), this option cannot be selected, as network share would not function anymore.



In the "General" section, click "**Printer Settings**" / "**Options**" and enter "8,00" for width and "5,00" for height.

Set the "**Blackness Value**" to "21" (highest value).

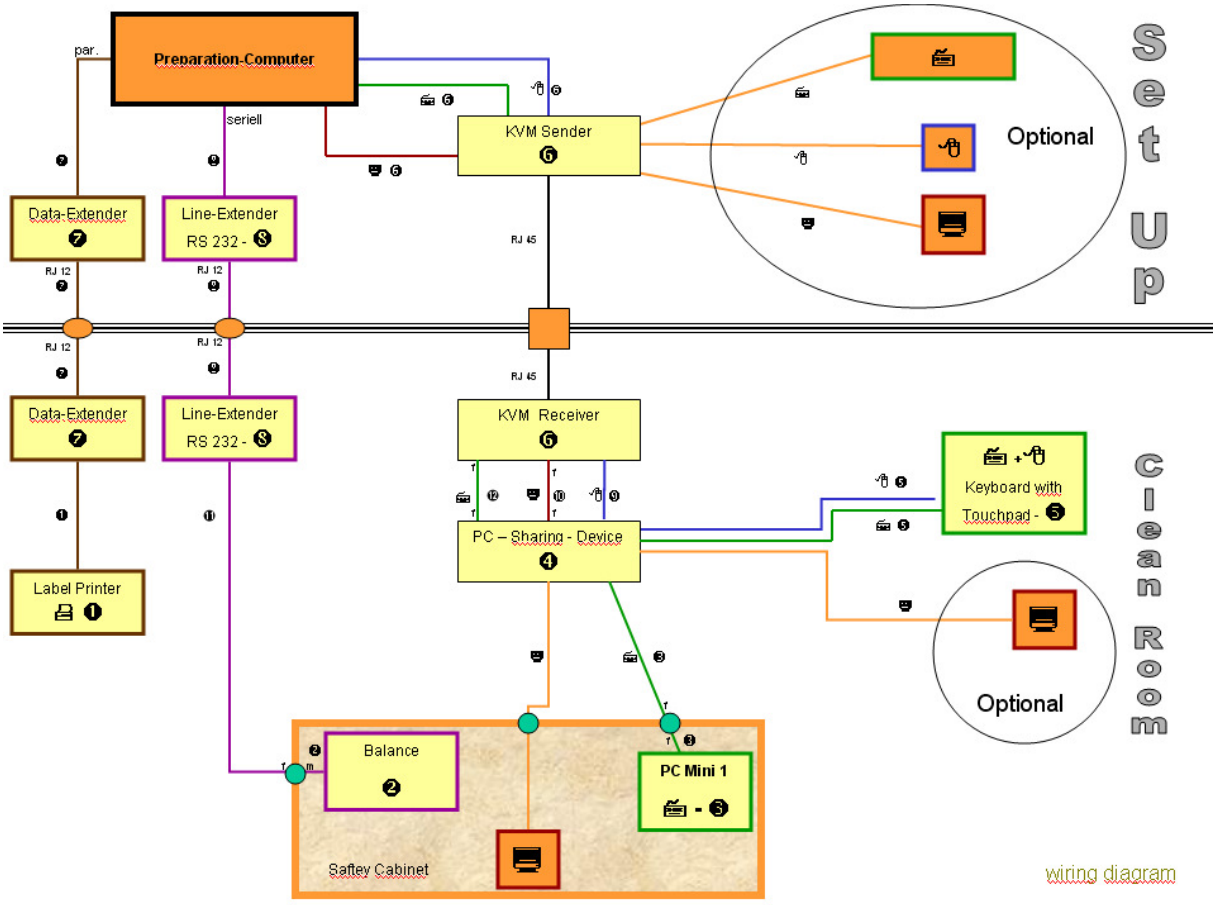
Now click "**Advanced Printer Settings**". If you are using the printer without a single sheet feeder, adjust the settings as shown in the figures. Then click "**Apply**" and then "**OK**".

In case you are using the printer with a single sheet feeder, select "**Strip**" as the eject mode. It is also necessary to know that the "**FEED**" button only works properly if the printer driver has been installed correctly and the printer has been turned off and back on again.

6.3. Positioning the Production Computer outside the Cleanroom with the KVM Amplifier "DUET-UTP"

With existing installations, keyboard, mouse, and screen can be connected to the remote computer by means of the KVM amplifier "DUET-UTP". This requires a KAT5 network wiring. Special Line Extenders are required for the balance and the label printer as well. Required wiring: 4-wire with RJ12 plugs.

The following figure shows the necessary wiring:



6.3.1 The KVM Amplifier "DUET-UTP" Sender/Receiver 250 m

The KVM Amplifier set "DUET-UTP" consists of a sender and a receiver and serves the purpose of transmitting signals from and to the mouse, keyboard, and the screen via a KAT5 network cable in great distance.

The Duett KVM amplifier enables the user to position the keyboard, screen, and the mouse up to 300m far from the computer. For detailed installation instructions, please refer to the amplifier's Manual.

With the installation, the following should be carefully considered:

Central und Remote Unit are connected with a 1:1 KAT-5 network cable. Connection can be established via a patchfeld as well.

- **Never use the KVM amplifier's inlets and outlets with a network hub, network switch, or with another network card, as it may cause serious damage to the amplifier!**
- Set the computer's graphic card to a frame rate of 75 Hz.
- Set the DIP switches to the corresponding resolution and cable length, as described in the Manual, as otherwise the image will be transferred in poor quality only.
- In case the image is outshining, adjust brightness with the corresponding potentiometer on the backside of the remote unit.
- "Double images“ (margins on the vertical edges) can be eliminated by setting the corresponding potentiometers on the backside of the remote unit.
- Make sure you are turning the potentiometers several times for brightness and sharpness, for the modifications to become visible.

6.3.2 Data Extender Kit (Printer Amplifier)

By means of the "Data Extender Kit“ (Number 7 in the Figure), parallel printer signals can be transmitted over larger distances.

The Kit consists of a Sender/Receiver pair. For wiring, use a 1:1 connected RJ12-cable.

6.3.3 RS232 Line Extender

The RS232 Line Extender Kit (Number 8 in the Figure) consists of a Sender/Receiver pair and serves the purpose of connecting the balance and the computer over larger distances. The serial RS232 signal is amplified and can be transmitted up to 800 meters far via a four-wire cabling.

The following settings must be made on the converters (icCL-II):

Computer: 20 - **DCE**
RX: PSV
TX: ACT

Balance: 20 - **DTE**
RX: PSV
TX: ACT

The connecting cable must be crossed out as follows:

Balance		Computer
1	→	3
2	→	4
3	→	1
4	→	2

7 Out of date Software Components

7.1 Microsoft Data Engine 7.0

The Microsoft Data Engine is no longer supported with the current version.

8 Appendix A

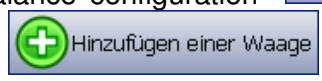
8.1 Preliminary Investigations

Preparation computer's inventory number	
Balance manufacturer	
Balance model	
Balance's serial number	
Activation code	
Balance's manual available on spot	O available

8.2 Installing the Software Components

Insert the EDS Installation CD	
Run "EDS_Runtime_11e.exe" from the main directory and perform the installation.	O Installation OK
Restart the computer	O done
Run "EDS_SMT_Waagenserver_Cato_1.0.0.11.exe" from the "EDS Installer" directory on the CD and complete the installation	O Installation OK
Allow full access to all users to C:\Documents and Settings\All Users\Application Data\EDS\DATA	O done
Call "EDS - SMT Balance server" / "Tools" / "Registering Server" in the Start menu.	O done

8.3 Configuring the Calibratable Data Storage Unit

Start the EDS Control Center in the Start menu under "EDS-SMT Balance server / EDS Control Center"	O started
Click "Balance configuration" then click "Add new balance" 	

Enter the balance's details in the form that appears: - Manufacturer's name (e.g. "METTLER", "SARTORIUS", "KERN", etc.)	O Balance created

- Balance's serial number - Maximum data sets per day: 9999 - Working days per week: as required - Storage period in months: 3	
Activate the balance: - Double-click on the balance you have previously added and the window with the balance details will appear - Click "Copy" - Enter the License code and click "Activate"	O Balance successfully activated
The following balance has been added: - Manufacturer's name: - Serial number: - Activation code:	O Values documented

8.4 Configuring the Calibratable Data Storage Unit in cato®

Start **cato®** and make sure that the "Use Cato XPM" option is activated in the "Administration" / "Cato Extensions" program section.	O XPM activated
Open "Administration" / "Configure Hardware" and check whether connection can be established with the balance.	O Connection OK
With Mettler balances: check in the balance's Configuration Menu that the setting "*Menu" / "System" / "Periphery" / "Host" / "Define" / End of Line*" is set to "**<CR><LF>**". Check the connection again.	O Connection OK
In **cato®**, set the balance type to "Calibratable Data Storage Unit" and enter the exact same values in the "Manufacturer" and "Serial number" fields as in the configuration program for calibratable data storage units. In the "Type" field, select the correct balance type.	O Values entered
Test the balance connection.	O Test OK
Perform a gravimetric preparation and select a CDS value in the preparation protocol.	O CDS value:
Open the CDS Control Center and click "Data storage unit".	
Double-click the selected balance and a "Save" dialogue box will appear. Click "Number range" and enter the CDS value in the search	O Value found

mask.	
Check whether the CDS value and weight are identical in the CDS control center and **cato®**.	O Value identical
Fill in the sticker and apply it on the PC. To detect the program version, open the hardware configuration in **cato®** and start a balance test – the CDS icon will appear in the system tray. In the icon's context menu, click "About" to read the balance server's version number. PC Inventory number: …… Program version: ……	O Sticker filled in and applied

……	……	……
Name	Signature	Place, Date

9. Appendix B

9.1. Datalogic Matrix200 Barcode Scanner Configuration

9.1.1. General Information

This document describes the configuration of the Datalogic Matrix200 Barcode Scanner (USB-version) so that it can be used correctly in **cato®**.

The Matrix200 Barcode Scanner can be used from **cato®** 2.4 and higher as it requires a Baud rate of 115200.

9.1.2 Configuration

9.1.2.1 Installation

First, install the "USB-COM_Driver.exe“ file. This will make sure that the USB version of the Matrix200 scanner will be recognized by the PC. This driver must be installed on all computers using the Matrix200 scanner.

Link: http://www.cato.eu/downloads/matrix200/USB-COM_Driver.exe

In the next step, install the VisiSet Software. This tool will guide you through the configuration of the Matrix200 scanner.

Link: http://www.cato.eu/downloads/matrix200/VisiSet_5_5_0.zip

Download the Matrix200 Configuration File as well. This will be imported into the scanner at a later point.

Link: http://www.cato.eu/downloads/matrix200/matrix200_finale.ini

9.1.2.2 Importing Configuration

Connect the Matrix200 scanner to a free USB port.	☐ Done
In the Device Manager, under "Connections", search the Matrix200 Scanner's COM port.	☐ Done
Start the VisiSet software and make the following settings under "Options“ – "Communication“: - Communication Channel: Serial port - Autoconnect ports: Set port from Device Mananger - Baud rate: 115200 - Stopbits: 1 - Parity: None	☐ Done

Quit the "Options“ menu and press "Connect“	
The VisiSet software will connect to the Matrix200 scanner.	☐ Done
Press "Device“ – "Get Configuration from Temporary Memory“	☐ Done
Under "Parameter Setup“, select "File" – "Load Configuration File"	☐ Done
Open the "Matrix200_finale.ini“ file that you have saved to your computer.	☐ Done
Under "Parameter Setup", click "Send“	☐ Done
After transferring the data to the Matrix200 scanner, close the "Parameter Setup“ window. The main menu now features: **Checking configuration...OK** **Configuration saved in Permanent memory!**	☐ Done
On the left-hand side, click "Run Mode" The scanner is now set to "Run" mode and is permanently ready until it is removed again.	☐ Done
Close the VisiSet software by clicking "File" – "Exit“ (do not press "ESC. Exit Run Mode" as this would terminate the "Run" mode)	☐ Done

The Matrix200 Barcode Scanner can now be used in **cato®**.

9.1.3 Using the Datalogic Matrix200 Barcode Scanner in cato®

Use the following settings for the Matrix200 Barcode Scanner in cato®:

COM port: as appears in the Device Manager

Baud rate: 115200

Parity: None

Data bits: 8

Stopbits: 1